April 27 — May 3, 2015 | **bloomberg.com**

Bloomberg Businessweek

Come aboard a high-seas journey into the heart of China's leisure class

p50

Challenges of hyper-connectivity

The $445 Billion Cyber Risk Gap

The Internet of Everything will drive growth—and create new globally interconnected risk issues for businesses worldwide (yours included)

New cyber risks are constantly emerging, and as the world becomes more connected, they will do so at a faster pace.

$445 billion.

That's one middle-of-the-road estimate of how much cybercrime costs the global economy each year—more than the GDP of Singapore or Austria. If cybercrime was a nation, it would represent the world's 27th largest GDP.

But it's what lies beneath these numbers that should be keeping business leaders awake at night in the hyper-connected age of the Internet of Everything. It's hard to assess the broader impact of cybercrime because it is so highly interconnected with other global risk factors, and because it is defined and reported differently by every country. Many cyber incidents go unreported because they touch on national interests or the reputations of corporations.

These variations in standards and the difficulty in putting a true cost to cybercrime make it difficult for policy-makers to develop a suitable response. Whether global cyber governance can ever be effective enough to help reduce these threats remains an open question; the potentially devastating impacts of a failure to do so is not.

Precedents for success

Catherine Mulligan, a Senior Vice President at Zurich Insurance Group (Zurich) who specializes in underwriting errors and omissions risks, points to a number of global networks, such as the World Health Organization (WHO), that have been created to respond to risks that reverberate across the continents. Such organizations, she says, might serve as useful templates for a global institution governing cyber issues. Mulligan has also seen signs of enhanced public-private cooperation, another key element to improved cybersecurity.

"The issue is on the radar," Mulligan says. "The level of attention from governments has increased in the past two years. And the 2015 World Economic Forum Global Risk Report talked about the importance of public-private cooperation. It's encouraging that we've seen multiple sectors bring their expertise to the conversation."

Zurich, for example, has participated in working groups and roundtables with U.S. cabinet departments and the U.S. Chamber of Commerce. Mulligan herself recently spoke before a U.S. Senate Commerce Committee hearing regarding the evolving cyber-insurance marketplace. At the international level, there is movement, too. One such step occurred in December 2014, at the inaugural EU-US Cyber Dialogue in Brussels, where representatives voiced their full support for multi-stakeholder governance structures.

Only time will tell whether the global cyber-governance gap can be effectively narrowed, but in the meantime, Mulligan emphasizes that private companies must shift their thinking from protection to resilience.

"You can't just defend—technology is increasingly complex, and cybercriminals are increasingly creative," she says. "Being able to detect threats and then respond efficiently goes a long way to mitigating the costs and the downtime."

Such efficiency requires company-wide acknowledgement of the seriousness of cyber risks. That implies C-suite and board level involvement in managing them and a culture of awareness across the organization. All stakeholders need to be at the table, with risk managers, human resources and general counsel sitting shoulder-to-shoulder with IT. Resilience, Mulligan says, starts with incident response and business-continuity planning. But creating a plan is just one of many steps.

"You need to test the plan for weak spots," Mulligan says. "Since it's unlikely you can stop all cyberattacks, it is likely that, eventually, you'll have to activate the plan."

> "You can't just defend against cyber risks. Technology is increasingly complex, and cybercriminals are increasingly creative. Being able to detect the threats and then respond efficiently goes a long way to mitigating the costs and downtime."


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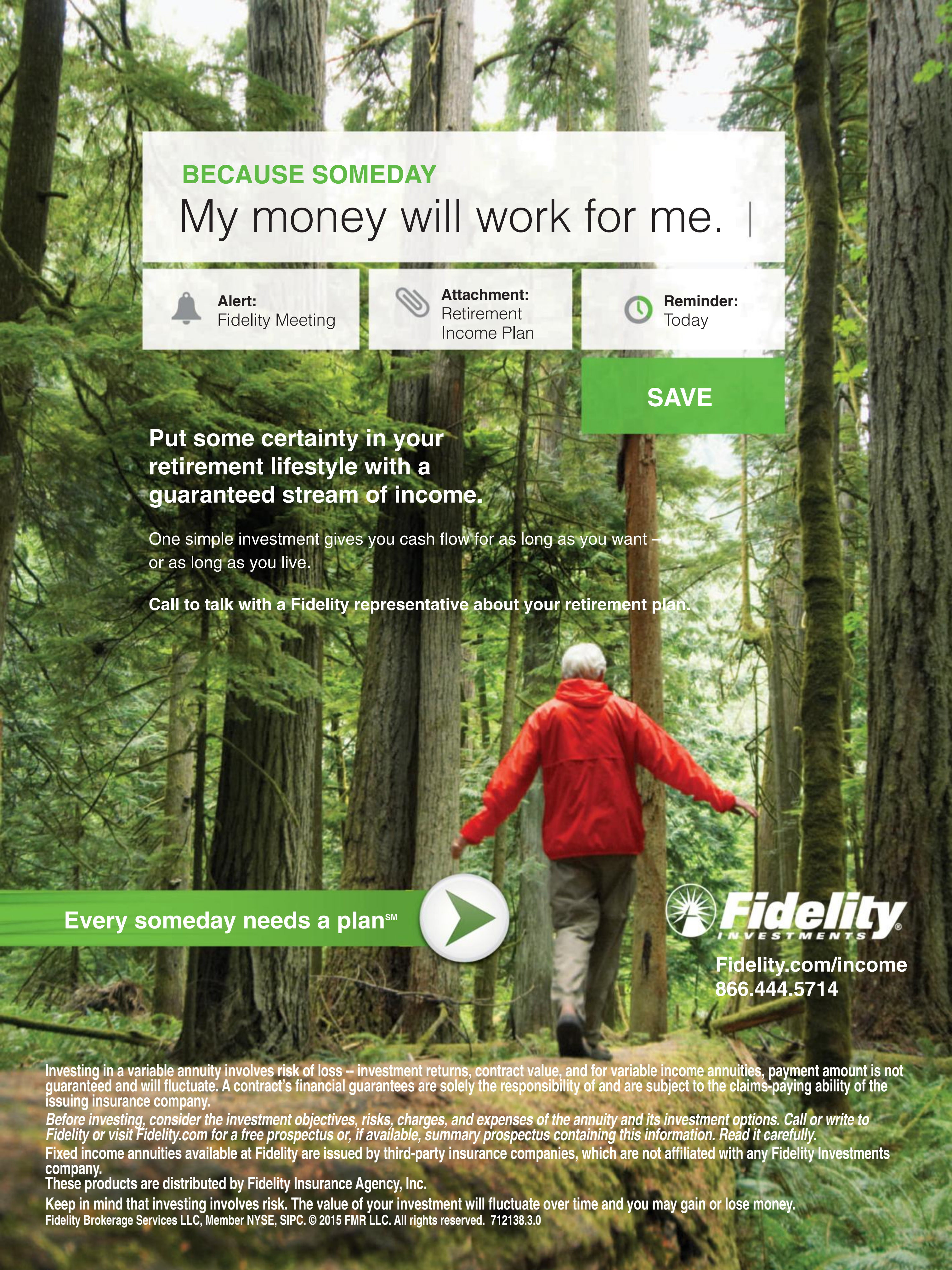
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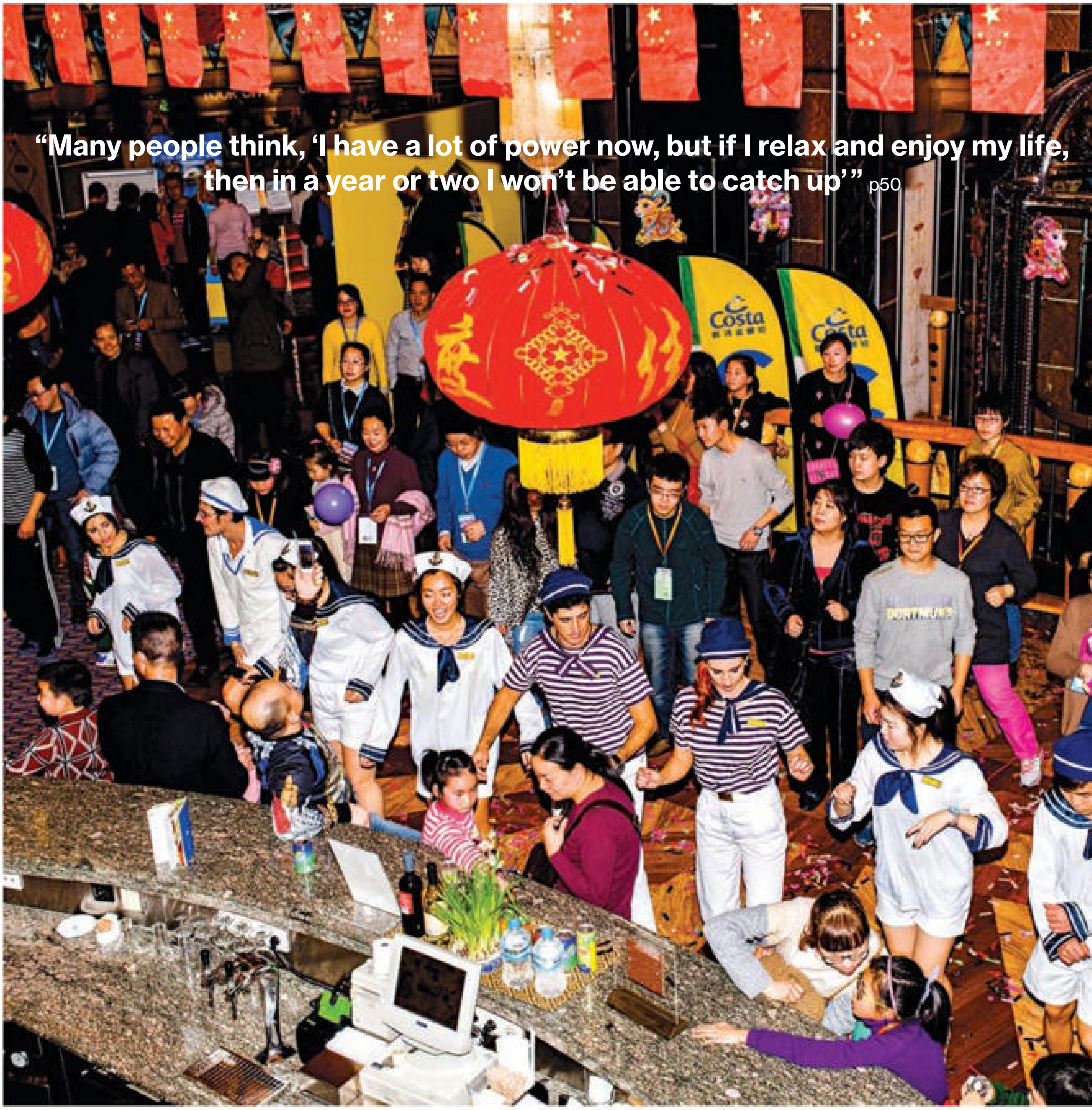


PHOTOGRAPH BY KA XIAOXI FOR BLOOMBERG BUSINESSWEEK

Bloomberg Businessweek
April 27 — May 3, 2015

COVER AND COVER TRAIL: PHOTOGRAPHS BY KA XIAOXI FOR BLOOMBERG BUSINESSWEEK

Cover Trail

How the cover gets made

1 "The cover is on the cruise industry in China."

"What about it?"

"It's a burgeoning industry there that could become huge. But there are challenges, specifically, cultural."

"So cruises are already somewhat awkward, but China being a communist country deeply rooted in tradition makes them more awkward?"

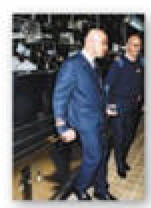
"Something like that."

"Well, we have great photos:"

2 "People taking selfies."

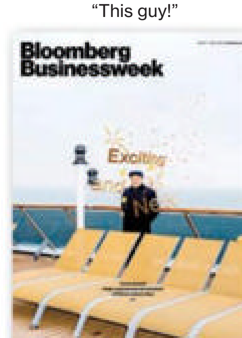
3 "Four dudes in a hot tub."

4 "Concerned crew."



"These are all interesting, but is there something that captures the subtle tension between the absurdity of cruises and the reluctant population they're trying to win over?"

5 "This guy!"



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Corrections & Clarifications
In "Grub Stubs" (Etc., April 20- April 26, 2015), we misidentified the booking service for China Chilcano. It's Yelp SeatMe, not OpenTable.

HAWAII: PHIL UHL; BACHELDER: COURTESY SUBJECT; PAGE: TIM MOSENFELDER/GETTY IMAGES

Welcome To Less Than Zero

By Peter Coy

Interest rates have fallen into negative territory. The consequences could well be existential for the concept of cash itself

JPMorgan Chase recently sent a letter to some of its large depositors telling them it didn't want their stinking money anymore. Well, not in those words. The bank coined a euphemism: Beginning on May 1, it said, it will charge certain customers a "balance sheet utilization fee" of 1 percent a year on deposits in excess of the money they need for their operations. That amounts to a negative interest rate on deposits. The targeted customers—mostly other financial institutions—are already snatching their money out of the bank. Which is exactly what Chief Executive Officer Jamie Dimon wants. The goal is to shed $100 billion in deposits, and he's about 20 percent of the way there so far.

Pause for a second and marvel at how strange this is. Banks have always paid interest to depositors. We've entered a new era of surplus in which banks—some, anyway—are deigning to accept money only if customers are willing to pay for the privilege. Nick Bunker, a policy analyst at the Washington Center for Equitable Growth, was so dazzled by interest rates' falling into negative territory that he headlined his analysis after a Doors song, *Break on Through (to the Other Side)*.

In recent months, negative rates have become widespread in Europe's financial capitals. The European Central Bank, struggling to ignite growth, has a deposit rate of -0.2 percent. The Swiss National Bank, which worries that a rise of the Swiss franc will hurt trade, has a deposit rate of -0.75 percent. On April 21 the cost for banks to borrow from each other in euros (the euro interbank offered rate, or Euribor) tipped negative for the first time. And as of April 17, bonds comprising 31 percent of the value of the Bloomberg Eurozone Sovereign Bond Index—€1.8 trillion ($1.93 trillion) worth—were trading with negative yields. (Although dollar interest rates are higher, JPMorgan Chase's balance sheet utilization fee fits the pattern: In today's low-rate world, the only way it can shed deposits in response to new regulations is to go all the way to less than zero.)

It's not unusual for interest rates to be negative in the sense of being lower than the rate of inflation. If the Federal Reserve pushes interest rates below inflation to stimulate growth, it becomes cheaper to borrow and buy something now than to wait to make the purchase. If you wait, inflation could make prices go up by more than what you owe on the loan. You can also think of it as inflation reducing the effective amount you owe.

What is rarer is for interest rates to go negative on a nominal basis—i.e., even before accounting for inflation. The theory

was always that if you tried to impose a negative nominal rate, people would just take their money from the bank and store cash in a private vault or under a mattress to escape the penalty of paying interest on their own money. When the Federal Reserve slashed the federal funds rate in 2008 to combat the worst financial crisis since the Great Depression, it stopped cutting at zero to 0.25 percent, which it assumed to be the absolute floor, the zero lower bound. It turned to buying bonds ("quantitative easing") to lower long-term rates and give the economy more juice.

Over the past year or so, however, zero has turned out to be a permeable boundary. Several central banks have discovered that depositors will tolerate some rates below zero if withdrawing cash and storing it themselves is costly and inconvenient. Investors will buy bonds with negative yields if they believe rates will fall further, allowing them to sell the bonds at a profit. (Bond prices rise when rates fall.) Global investors are also willing to put money into a nation's negative-yielding securities if they expect its currency to rise in value.

Now comes the interesting part. There are signs of an innovation war over negative interest rates. There's a surge of

PHOTO ILLUSTRATION BY 731; PHOTOS: 20TH CENTURY FOX/EVERETT COLLECTION; ISTOCK

It's a new era of banks deigning to accept money only if customers are willing to pay for the privilege

creativity around ways to drive interest rates deeper into negative territory, possibly by abolishing cash or making it depreciable. And there's a countersurge around how to prevent rates from going more deeply negative, by making cash even more central and useful than it is now. As this new world takes shape, cash becomes pivotal.

The idea of abolishing or even constraining physical bank notes is anathema to a lot of people. If there's one thing that militias and Tea Partiers hate more than "fiat money" that's not backed by gold, it's fiat money that exists only in electronic form, where it can be easily tracked and controlled by the government. "The anonymity of paper money is liberating," says Stephen Cecchetti, a professor at Brandeis International Business School and former economic adviser to the Bank for International Settlements in Basel, Switzerland. "The bottom line is, you have to decide how you want to run your society."

As long as paper money is available as an alternative for customers who want to withdraw their deposits, there's a limit to how low central banks can push rates. At some point it becomes cost-effective to rent a warehouse for your billions in cash and hire armed guards to protect it. We may be seeing glimmerings of that in Switzerland, which has a 1,000 Swiss franc note ($1,040) that's useful for large transactions. The number of the big bills in circulation usually peaks at yearend and then shrinks about 6 percent in the first two months of the new year, but this year, with negative rates a reality, the number instead rose 1 percent through February, according to data released on April 21.

Bank notes, as an alternate storehouse of value, are a constraint on central banks' power. "We view this constraint as undesirable," Citigroup Global Chief Economist Willem Buiter and a colleague, economist Ebrahim Rahbari, wrote in an April 8 research piece. They laid out three ways that central banks could foil cash hoarders: One, abolish paper money. Two, tax paper money. Three, sever the link between paper money and central bank reserves.

Abolishing paper money and forcing people to use electronic accounts could free central banks to lower interest rates as much as they feel necessary while crimping the underground economy, Buiter and Rahbari write: "In our view, the net benefit to society from giving up the anonymity of currency holdings is likely to be positive (including for tax compliance)." Taxing cash, an idea that goes back to German economist Silvio Gesell in 1916, is probably unworkable, the economists conclude: You'd have to stamp bills to show tax had been paid on them. The third idea involves declaring that all wages and prices are set in terms of the official reserve currency—and that paper money is a depreciating asset, almost like a weak foreign currency. That approach, the Citi economists write, "is both practical and likely to be effective." Last year, Harvard University economist Kenneth Rogoff wrote a paper favoring exploration of "a more proactive strategy for phasing out the use of paper currency."

Pushing back against the cash-abolition camp is a group of people who want to make cash more convenient, even for large transactions. Cecchetti and co-author Kermit Schoenholtz, of New York University's Stern School of Business, suggest a "cash reserve account" that would keep people from having to pay for things by sending cash in armored trucks. During the day, funds in the account would be payable just like money in a checking account. But every night they'd be swept into cash held in a vault, sparing the money from the negative interest rate that would apply to money in an ordinary checking account. In a way, physical cash would take on a role similar to that played by gold in an earlier era of banking.

Like chemotherapy, negative interest rates are a harsh medicine. It's disorienting when people are paid to borrow and charged to save. "Over time, market disequilibria are dangerous," G+ Economics Chief Economist Lena Komileva wrote to clients on April 21. Which side of the debate you fall on probably comes down to how much you trust government. On one side, there's an argument to be made that cash has become what John Maynard Keynes once called gold: a barbarous relic. It thwarts monetary policy and makes life easy for criminals and tax evaders: Seventy-eight percent of the value of American currency is in $100 bills. On the other side, if you're afraid that central banks are in a war against savers, or that the government will try to control your financial affairs, cash is your best defense. Taking it away "is a prescription for revolution," Cecchetti says. The longer rates break on through to the other side, the more pressing these questions become. Ⓑ

To read Noah Smith on the economics of grad school and Katie Benner on Powa Technologies, go to

Bloombergview.com

Why Can't You Buy Stock on Kickstarter?

It's already legal. The SEC should finalize rules on crowdinvesting

Surely one of the most glorious absurdities of American capitalism is that it's easier to raise money online to make potato salad than, say, to start an actual business. Zack Danger Brown will attest to that. He's the Ohio man who set a $10 goal to make potato salad last year and ended up with $55,492 after visitors to a crowdfunding site flooded him with donations.

Tens of thousands of more serious projects from filmmakers, software developers, food-truck vendors, and clothing designers have raised almost $2 billion online via Kickstarter, Indiegogo, and similar sites. But there's little upside for people who actually want to invest in a business, because donors can be rewarded only with gifts such as free samples and movie tickets, not stock.

Congress passed a law in 2012 allowing entrepreneurs to sell small amounts of stock through crowdfunding websites. The idea was to streamline the contradictory and confusing federal and state rules about the practice, which would be faster and cheaper—and require less bureaucratic oversight—than formal Securities and Exchange Commission registration. Yet the SEC still hasn't issued the final rules to allow for this form of raising capital, mostly because it's worried that crowdfunding could make it easier for scam artists to separate investors from their money.

The law includes adequate protections for investors. If their annual income is below $100,000, they can buy only up to $2,000 worth of shares. (Those with higher incomes can invest as much as $10,000.) Companies can't raise more than $1 million a year through crowdfunding, and they must make financial statements available online. Portals that match buyers with sellers must register with the SEC and vet entrepreneurs and investors.

All in all, it's not fail-safe—but neither is the SEC's usual registration and reporting system.

More than a dozen states, meanwhile, have marched ahead with their own rules that allow the sale of securities over the Internet to investors within their borders. A dozen more are considering doing so. Instead of one uniform national rule, the U.S. is on its way to having 50.

The SEC has shown it knows how to retrofit an archaic rule for a changing market. In May it will liberalize a rarely used capital-formation process by allowing medium-size companies to sell as much as $50 million in equity, up from a $5 million cap, without registering their securities. It also will let smaller investors get in on such mini initial public offerings.

Yes, the Internet is a whole new venue for ruses that securities regulators need to worry about. But their bigger worry should be how to adapt their rules to new financial markets, technologies, and business models.

It should be more difficult to get people to invest in an idea than in a side dish. But it shouldn't be this hard.

Break the NRA's Ban on Gun Violence Research

The CDC should be allowed to look into the harm guns cause in America

The list of things the gun lobby opposes is long and varied. But its most determined attacks target information itself. For two decades, Congress has prohibited the Centers for Disease Control and Prevention from using funds to "advocate or promote gun control." (The National Institutes of Health faces a similar restriction.) The medical profession is getting fed up. The April 7 issue of the *Annals of Internal Medicine* has an editorial calling on physicians to demand the "resources and freedom" to do their job: reducing harm. Specifically, it calls for an end to the political blockade on research about the health effects of gun violence.

The gun lobby makes many claims, the most important of which is the declaration that more guns lead to greater public safety. Life (and death) across the U.S. seems to undermine that assertion—more than 30,000 firearm deaths and tens of thousands of injuries annually—while a smattering of research, conducted despite the blockade, reinforces doubts about the thesis.

Perhaps extensive research would authenticate the National Rifle Association's claims. On the other hand, there's a chance that a solid body of social-science research would reveal it as a myth. Better not to take the risk.

In the wake of the 2012 mass murder in Newtown, Conn., Barack Obama pledged to take executive action to fund research about gun violence. Congress, which failed to pass even rudimentary background-check legislation after the killings, has refused to fund Obama's research agenda. And the CDC appears too cowed to move forward without congressional sanction.

In February the American Bar Association and the American Public Health Association declared gun violence a "public health crisis" requiring thorough research. If they succeed in mobilizing their members, much good may follow.

"We, as health care professionals, are trusted, expected, and paid to prevent harm to our patients and discover solutions to public health problems," the *Annals* wrote in its editorial. "Have we done our jobs? Can we?" The gun lobby and Congress stand in the way. Physicians have to take the fight to Washington. Ⓑ

Global Economics

April 27 — May 3, 2015

IVAN ROMANO/GETTY IMAGES

Europe Wakes Up to the Crisis

▶ The loss of life as refugees cross the Mediterranean highlights Libya's decline as a functioning state

▶ "Now we have a terrorist hub much closer to Europe, much closer than Syria is"

African migrants being relocated on an Italian naval vessel on April 22

on Its Shores

More than 800 would-be migrants drown as their overloaded boat sinks off the coast of Libya. An April video shows Islamic State fighters shooting and beheading 30 Ethiopian Christians in Libya. Oil fields are seized in the center of the country.

European leaders finally are waking up to the gravity of the humanitarian, political, and economic mess that has gotten ever more complex since NATO helped rebels topple the regime of Muammar Qaddafi in 2011. Up until now, the Europeans mostly watched as Libya slid into chaos and the country's elected officials were chased out of Tripoli by a rival Islamist government. But the April 18 mass drowning of African and Middle Eastern migrants off Libya has changed that. On April 21, European foreign and interior ministers met in Luxembourg and prepared a 10-point plan that includes destroying the boats that traffickers use to ferry migrants from Libya to Europe's fringe. Prime Minister Matteo Renzi of Italy has called for United Nations-backed troops to restore order in Libya and police its borders with Algeria, Chad, Egypt, Niger, and Tunisia.

That won't be enough, and for Europe the question of what to do about Libya presents one of the biggest challenges since the Greek crisis threatened to bring down the euro zone itself. "This affects us," says Mattia Toaldo, a Libya expert at the European Council on Foreign Relations in London. "Firstly in terms of energy security, secondly it pushes more migrants into the sea, and the third threat is the more direct terrorist threat. Now we have a terrorist hub much closer to Europe, much closer than Syria is."

The presence of oil indirectly compounds Libya's problems since crude is a prize coveted by the two rival governments and Islamic State. Italy's **Eni**, one of the few oil companies left in Libya, is pressing for action by the European Union to end the fighting. "We need to hurry because terrorist activity in Libya" is making it harder for the rival governments to talk, Eni Chief Executive Officer Claudio Descalzi said in a Feb. 18 conference call with analysts. "A united Libya needs to be the goal."

Life inside Libya is a misery. Power and phone outages are routine,

Quoted

"We should never allow to go unchecked the use of force by the mightier to twist the weaker around."

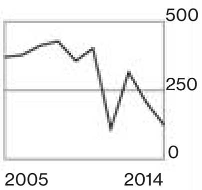
Japan Prime Minister **Shinzo Abe** at an April 22 conference of Asian and African leaders, where he met China's president.

◀ hospitals warn of a collapse in care, and foreign workers have fled. As the secular government in Tobruk and the Islamist government in Tripoli fight each other, the Sunni Islamic State, which emerged as a force last year when other jihadists took up its banner, battles both. Embassies are closed, and Tripoli's main international airport is in ruins.

Islamic State in Libya is making a concerted push for more territory and oil. Its fighters captured four oil fields on March 2, though they were later recovered by forces loyal to the elected government. But Islamic State has secured the towns of Sirte and Derna as bases of operation. It claimed responsibility for the Jan. 27 attack on the five-star Corinthia Hotel in Tripoli that left at least nine dead. In February an Islamic State video showed the beheadings of 21 Egyptian Christians in Libya. The video also featured a masked militant vowing that Islamic State would conquer Rome. "Libya is effectively a failed state," Spanish Prime Minister Mariano Rajoy told his parliament on April 15. He, too, called for a national unity government in Libya.

Libyan crude oil imported by EU

Millions of barrels



Qaddafi's police state kept migrants and traffickers at bay. The current governments aren't strong enough and are too busy fighting each other to keep the borders secure, making it easier for migrants to enter Libyan territory, and Islamic State fighters to infiltrate. The lawlessness of Libya makes it easy for traffickers to prey on would-be migrants from Africa willing to risk crossing 200 miles of open sea to Malta or the Italian island of Lampedusa. About 1,600 people will have died in 2015 crossings so far if the toll of the latest tragedy is confirmed, according to the Office of the UN High Commissioner for Refugees. The death toll for all of 2014 was 3,500. European border agency Frontex says more than 170,000 migrants crossed from North Africa last year.

Although Libyan oil is not essential to Europe in this age of glut, the country's drastically lower production rattles governments whose economies often depend on crude from politically shaky regimes. Libya provides Italian refineries with about 60 percent of the oil they process, according to Bloomberg Intelligence analyst Philipp Chladek. Italy gets 10 percent of its natural gas from Libya through the underwater Greenstream pipeline to Sicily. Germany and France also buy oil from Libya, which has the largest oil reserves in Africa.

Spanish oil producer **Repsol** pulled out of Libya last November because of what CEO Josu Jon Imaz called strong security concerns. "Libya is a problem, of course, for the Libyan people and also for Europe," he told investors on a Feb. 26 conference call. The possibility of having a failed state near the EU's borders "is a main concern for the international community."

About 250,000 barrels of oil a day were produced in Libya in February, a fraction of the 1.6 million barrels a day produced in the Qaddafi era. Thanks to the repair of a pipeline that had been attacked in eastern Libya, the country's production rate for April is about 600,000 barrels a day, the International Energy Agency said on April 15. That's probably not sustainable given the regularity of assaults by fighters loyal to the two governments as well as Islamic State. Production has continued thanks to the neutrality Libya's **National Oil Corp.** somehow maintains.

The violence has prompted Egypt to bomb Islamic State targets in Libya, while the mass drownings have set the stage for a possible meeting of Europe's leaders to propose ways to restore Libya to a functional state. As Italian Prime Minister Renzi told reporters on April 19, "No solution to the migrant crisis can be found without stabilization in Libya." —*Alessandra Migliaccio and Tarek El-Tablawy*

The bottom line Libya's chaos is prompting Europe to consider intervention after four years of neglect.

Defense

Run Silent, Run Deep: Asia Buys New Subs

▶ Led by China, the armed forces of Asia are boosting their fleets

▶ "A submarine is a symbol of national power"

China has been a good friend to Pakistan. During a visit on April 21 by Chinese President Xi Jinping, the Chinese pledged $46 billion in new infrastructure and energy investment in Pakistan. The two sides are working on another token of China-Pakistan friendship: a purchase by Pakistan of eight Chinese-made submarines capable of carrying anti-ship missiles. According to the official *China Daily*, the price tag is somewhere between $4 billion and $5 billion. The sale will more than double the size of Pakistan's submarine fleet and help it keep pace with China and Pakistan's mutual rival, India, which is expanding its own trove of subs.

The Pakistan purchase extends a submarine race not only on the subcontinent but also in East Asia. Of the world's 300 submarines that are not part of the U.S. Navy (which has 73), two-thirds are in the Indo-Pacific region, Admiral Samuel Locklear told the U.S. Senate Armed Services Committee on April 16.

KAZUHIRO NOGI/AFP/GETTY IMAGES; ILLUSTRATION BY 731

The region already is "the most militarized part of the world," he said.

China, asserting its claims to disputed islands in the East and South China Seas, is modernizing its submarine fleet to expand the reach of the People's Liberation Army. That's pressuring Japan and South Korea to add to their fleets. Taiwan, after unsuccessfully attempting to buy submarines to modernize a fleet that includes World War II vintage boats, plans to build its own. In Southeast Asia, where governments used to shun subs as too pricey (roughly $500 million to $2 billion each), Indonesia and Vietnam are deploying them.

The jump in submarine purchases stems in part from the prestige associated with the vessels, which are expensive to buy and complicated to operate. But as their economies have grown, Asian countries that once wouldn't have purchased even one sub are buying many. "A submarine is a symbol of national power," says Swee Lean Collin Koh, associate research fellow at the Maritime Security Program at the S. Rajaratnam School of International Studies in Singapore. A typical military or government official would think, "If my neighbor buys two submarines, then I want to buy two as well," he says.

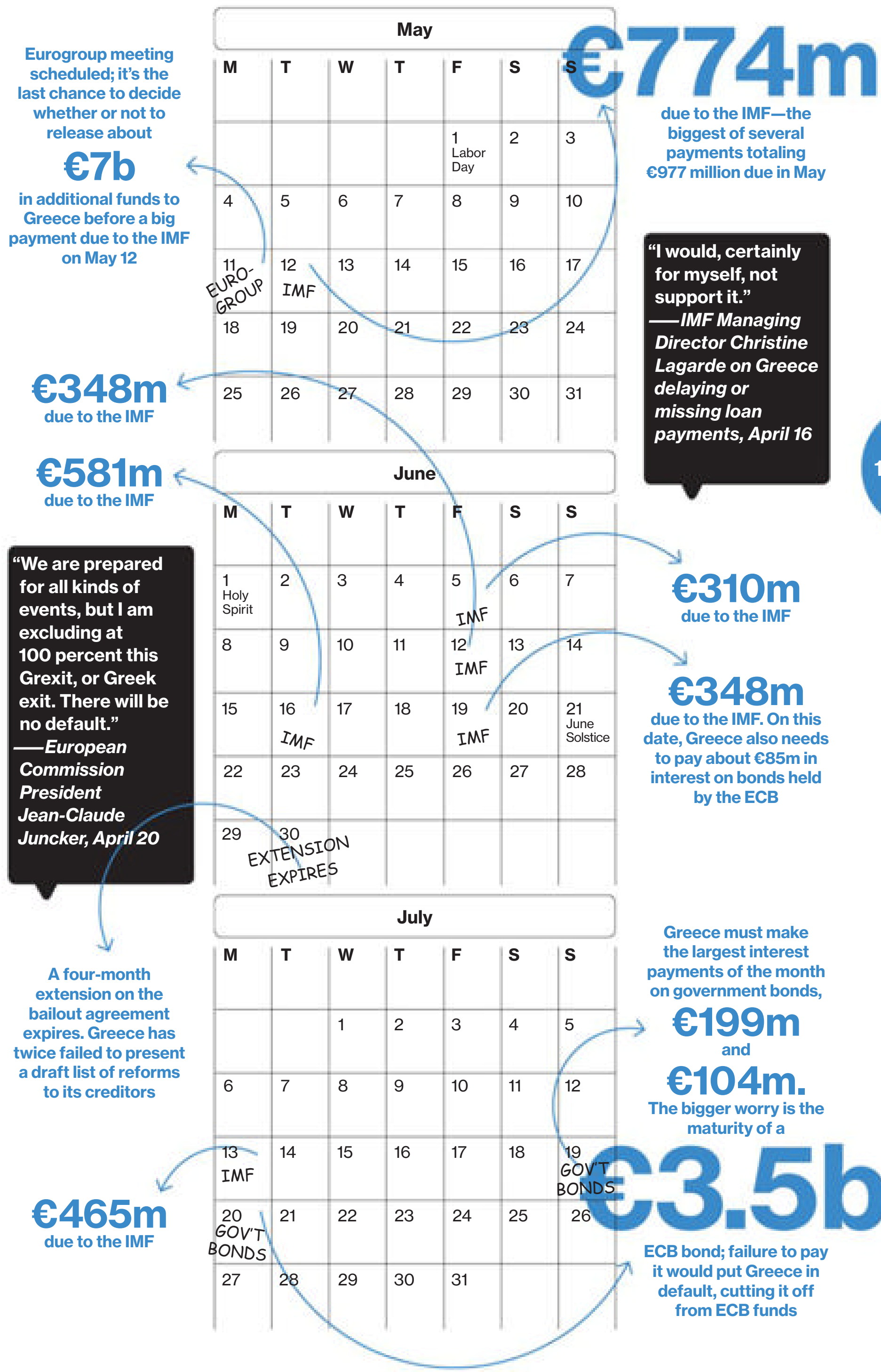
China is shifting away from the small, short-range subs it used in the Cold War. The Chinese navy has at least 70 subs, and over the next decade it's looking to add as many as 20 boats capable of traveling long distances submerged in deep water for days at a stretch. China will soon have a bigger fleet than the U.S., says Jack McCaffrie, a visiting fellow at the University of Wollongong's Australian National Centre for Ocean Resources and Security. "The Chinese navy is getting bigger, it's getting stronger, and it's getting more capable," he says. McCaffrie figures there were 200 submarines in East and South Asia in 2010. By 2030 that number will rise to 288.

China's aggressive program is leading other countries to invest more in aircraft to detect submarines. "The best way to deal with submarines is to pick them up early as they're leaving port and track them," says McCaffrie. "If you don't do that you have to search in a large ocean, and that's bloody hard work." Taiwan's Defense Ministry reported on April 20 that it will deploy **Lockheed Martin**'s P-3 submarine-hunting aircraft in the South China Sea for the first time. ▶

About 180 percent of its gross domestic product

Greece A Scary Calendar of Payments Due

Greece, which owes €324 billion to the International Monetary Fund, the European Central Bank, and euro zone governments, faces a relentless debt payment schedule over the next few months. Little money has been coming into the country, however, and talks over the release of bailout funds are progressing slowly. The government has been meeting obligations by drawing on its cash reserves. In a move that could keep the country afloat until the end of May, Prime Minister Alexis Tsipras ordered municipalities to transfer funds, estimated at about €1.5 billion, to the central bank. Below, a sampling of debts due in May, June, and July. ——*Dimitra Kessenides*



DATA: IMF; BLOOMBERG INTELLIGENCE

"Most of the community understands the problem of dengue: They have it, their parents have it, their children had it at least once." —*Guilherme Trivellato, Oxitec*

Japan has long relied on the P-3. But to do a better job keeping track of Chinese subs, the Japan Self-Defense Forces are replacing some of their old planes with new submarine hunters made by **Kawasaki Heavy Industries**. The Philippines, which has no submarines of its own, wants to buy submarine-hunting aircraft. Says Lance Gatling, president of Nexial Research, a Tokyo-based consultancy: "Countries are scrambling to figure out what's going on in their waters."

One of the biggest dangers created by the presence of more submarines is the risk of collisions, deliberate or accidental, especially in the relatively shallow waters of the South China Sea. With barges hauling coal and iron from Australia and tankers carrying oil from the Middle East, it's one of the world's busiest commercial trading routes.

Traditionally, Asian governments have skimped on their navies, favoring land-based forces. Spending on the army made sense since governments relied on the military "to control their own populations," says James Der Derian, director of the Centre for International Security Studies at the University of Sydney.

Now, with countries focusing more on defending sea lanes, seaborne forces are getting more attention. The challenge, Der Derian says, is for rival navies to talk to each other and so avoid unintended confrontations. In November the U.S. and China promised to do that, and Der Derian says there's dialog between China and Japan, too. "Arms races don't necessarily lead to war or to conflict," he says. But "you have to have the ability to communicate quickly to make sure that accidents don't escalate." —*Bruce Einhorn*

The bottom line Asia, the world's most militarized area, is about to introduce new submarines into an already dangerous mix.

Health

Battered Brazil Hosts An Outbreak of Dengue

▶ The tropical disease flourishes as mosquitoes explode in number

▶ "There's no more fumigation, like there used to be"

From August to February, taps yielded no water for 12 hours a day in Gregori Pizzanelli Leccese's São Paulo neighborhood, the result of the worst drought in 80 years. Many residents rushed to store water when faucets finally ran. They used pots, drums, and tanks to hold the water—which became breeding grounds for an explosion of mosquitoes and the dengue fever the insects carry. The city of 12 million has never experienced an outbreak like it. "I've seen a major increase of mosquitoes in the city over the past five years," says Leccese, who runs an apparel manufacturer with his father. He blames public officials. "There's no more fumigation, like there used to be. I see nothing about prevention education anywhere."

Leccese is among the 8,000 São Paulo residents already infected, and the city forecasts 82,000 more, almost all in the next few months. About 460,500 Brazilians have fallen ill with dengue so far this year through March 28, more than triple the number the year before, the Ministry of Health said in March. Of that number almost 258,000 cases are in São Paulo state, the hardest hit by the outbreak. Although super-urban São Paulo and other states have coped with dengue in the past, Brazil's largest city has never been as disproportionately affected by the disease until now. Symptoms include weakness, nausea, diarrhea, and pain. Severe cases lead to massive bleeding, shock, and death.

While dengue affects tropical nations from Singapore to Colombia, the water shortage in São Paulo is exacerbating the problem, says Alessandro Giangola, coordinator of the city's program to

PAULO WHITAKER/REUTERS; PHOTO ILLUSTRATION BY 731; PHOTOS: AP PHOTO (1), GETTY IMAGES (2)

control the mosquitoes. About half of São Paulo city residents complained of water cutoffs in a survey by polling company Datafolha released in October, before Brazil's seasonal rains arrived in February. The rainfall has eased shortages, but many residents still store water in vessels where mosquitoes breed.

As São Paulo's main reservoirs dried up, President Dilma Rousseff and São Paulo Governor Geraldo Alckmin, of the opposition Brazilian Social Democratic Party, sparred over who was to blame for the condition of the public water system before the October elections. After both were reelected they promised to cooperate and signed contracts for new water pipes. Alckmin's press office didn't respond to requests for comment, and Rousseff's declined to comment on if politics influenced the federal government's response to the water crisis.

Leaks remain a problem. About 31 percent of treated water escapes from the São Paulo waterworks—more than a third the result of illegal siphoning, according to the United Nations.

São Paulo's clinics are straining to care for patients with dengue. They need treatment for pain and fever and, in more serious cases, intravenous fluids. Sandra Regina Martins, a retired nurse's assistant, says her doctor diagnosed her with dengue late in March. She went to a hospital and waited with about 60 others complaining of similar symptoms. After three hours without being seen, she went home. "The hospital itself was full of mosquitoes; who's to say those mosquitoes don't have dengue?" she asks.

In the first 12 weeks of this year, dengue killed 132 people. Of them, 99 came from São Paulo state. Fifteen died there in the first 12 weeks of 2014, the Health Ministry said in an e-mail. Early detection and access to medical care can push the fatality rate below 1 percent. Health-care spending has increased but trails that of many developed nations.

The São Paulo Health Department said the city has performed 50 fumigations this year, vs. 20 for all of 2014. The fumigators are also talking to homeowners, but it's an uphill battle. At least one in five homes denies them access, says Giangola. In Piracicaba, about 98 miles from São Paulo, U.K.-based **Oxitec** plans to release millions of genetically modified male mosquitoes. They possess a gene that prevents them from having viable offspring. "Most of the community understands the problem of dengue: They have it, their parents have it, their children had it at least once," says Guilherme Trivellato, Oxitec's supervisor of production and field tests. "They're anxious for something that can help them." —*David Biller and Christiana Sciaudone*

The bottom line Brazil's underfunded public health sector is struggling to contain a dengue outbreak that has infected more than 460,000.

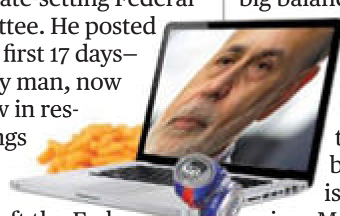
Monetary Policy

Should You Read Ben Bernanke's Blog?

▶ The former Federal Reserve boss is offering advice online

▶ "All of this activity is starting to look a bit frenetic"

Ben Bernanke's blog—titled, with the caution of a former Fed chairman, Ben Bernanke's Blog—is for people with an insatiable interest in inflation targeting, the zero lower bound on rates (page 8), and the term premium on 10-year Treasury notes. In other words, people who got food thrown at them in middle school. Yet it has its charms. Bernanke has fought an online duel with ex-Treasury Secretary Larry Summers, himself a skilled combatant; criticized Germany for its trade surplus; and, on April 15, offered what looked like unsolicited advice to the rate-setting Federal Open Market Committee. He posted 10 times in the blog's first 17 days—pretty good for a busy man, now a distinguished fellow in residence at the Brookings Institution.



The Bearded One went quiet after he left the Fed in January 2014. It turns out he was preparing an upward surge, like a breaching killer whale. He launched the blog on March 30. On April 8 his publisher unveiled the title and jacket of his memoir, *The Courage to Act*. On April 16 hedge fund **Citadel** announced it was hiring him as an outside senior adviser. "Dear Ben: Better Pace Yourself ..." was the headline on a post by Bloomberg View columnist Barry Ritholtz. "All of this activity is starting to look a bit frenetic," he wrote.

Trolling a worthy adversary is a time-tested way to get noticed in the blogosphere. When Bernanke went after Summers on their competing explanations for low interest rates, he managed to make it personal, writing, "As Larry's uncle Paul Samuelson taught me in graduate school at MIT ..." Summers responded on the blog. Bernanke responded to his response. Summers went silent.

Next up: the Germans, who Bernanke said should buy more imports. "In a slow-growing world that is short on aggregate demand," he wrote, "Germany's trade surplus is a problem." Thiess Petersen, an economist at Germany's Bertelsmann Foundation, commented on Bernanke's item to *Handelsblatt*, the business and finance daily: "I do think that Germany, as Europe's largest economy, has a special responsibility. But the question is, what should they do about it?"

Former Fed Chiefs Paul Volcker and Alan Greenspan have tended to be circumspect about commenting on Federal Reserve policy. Bernanke has, too. But in an April 15 speech at an International Monetary Fund conference (which of course became a blog entry), he seemed to say that members of the Federal Open Market Committee should think twice about allowing the Fed's balance sheet to shrink as bonds mature. "Of course, I have not been privy to the internal discussions ... but I wonder if the case for keeping the balance sheet somewhat larger than before the crisis has been adequately explored," he said. He explained that a big balance sheet might make it easier to control interest rates, but then pulled back: "To be clear, I am not making a recommendation today about the ultimate size of the Fed's balance sheet. It's a complex issue that deserves more discussion. My aim today is to contribute to that discussion and encourage further public debate."

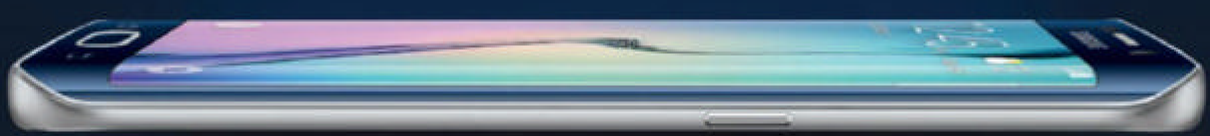
Bernanke's quiet demeanor and professorial mien earned him the nickname Gentle Ben, but the financial crisis made it clear that he's not one to back down. We're seeing a new side of Ben: blogger provocateur. Be warned, though—commentary on monetary policy is an acquired taste. —*Peter Coy*

The bottom line Paul Volcker and Alan Greenspan usually avoid giving the Fed advice. Bernanke has started to opine on its policies.

Edited by Christopher Power
Bloomberg.com

SAMSUNG

A WORK OF SMART



WELCOME TO THE EDGE

Galaxy S6 edge

FROM LEFT: CREDIT: COURTESY UNIVERSAL PICTURES AND ILLUMINATION ENTERTAINMENT; ILLUSTRATIONS BY 731 (3)

My Universe Is Bigger Than Your Universe

▶ After Disney's Marvel success, every studio in Tinseltown wants its own stable of characters

▶ "When there is a universe of films, it has a multiplier effect"

Ivan Reitman produced and directed the hit 1984 comedy *Ghostbusters* and its sequel five years later. Now the longtime Hollywood player has bigger plans—for a whole ghostbusting universe. He's working on the **Sony Pictures Entertainment** lot with Dan Aykroyd, one of the franchise's original stars; director Paul Feig; and a bevy of new comedians, led by Kristen Wiig and Melissa McCarthy, in an all-female version of the story. To help guide him, Reitman has created a bible (an in-depth rundown of characters, history, and rules for their fictional world) to refer to as he produces the film, slated for a July 2016 release. His new **Ghost Corps** production company will use the same playbook as it churns out TV shows, character merchandise, and possibly an animated feature based on the ghost-hunting Ph.D.s.

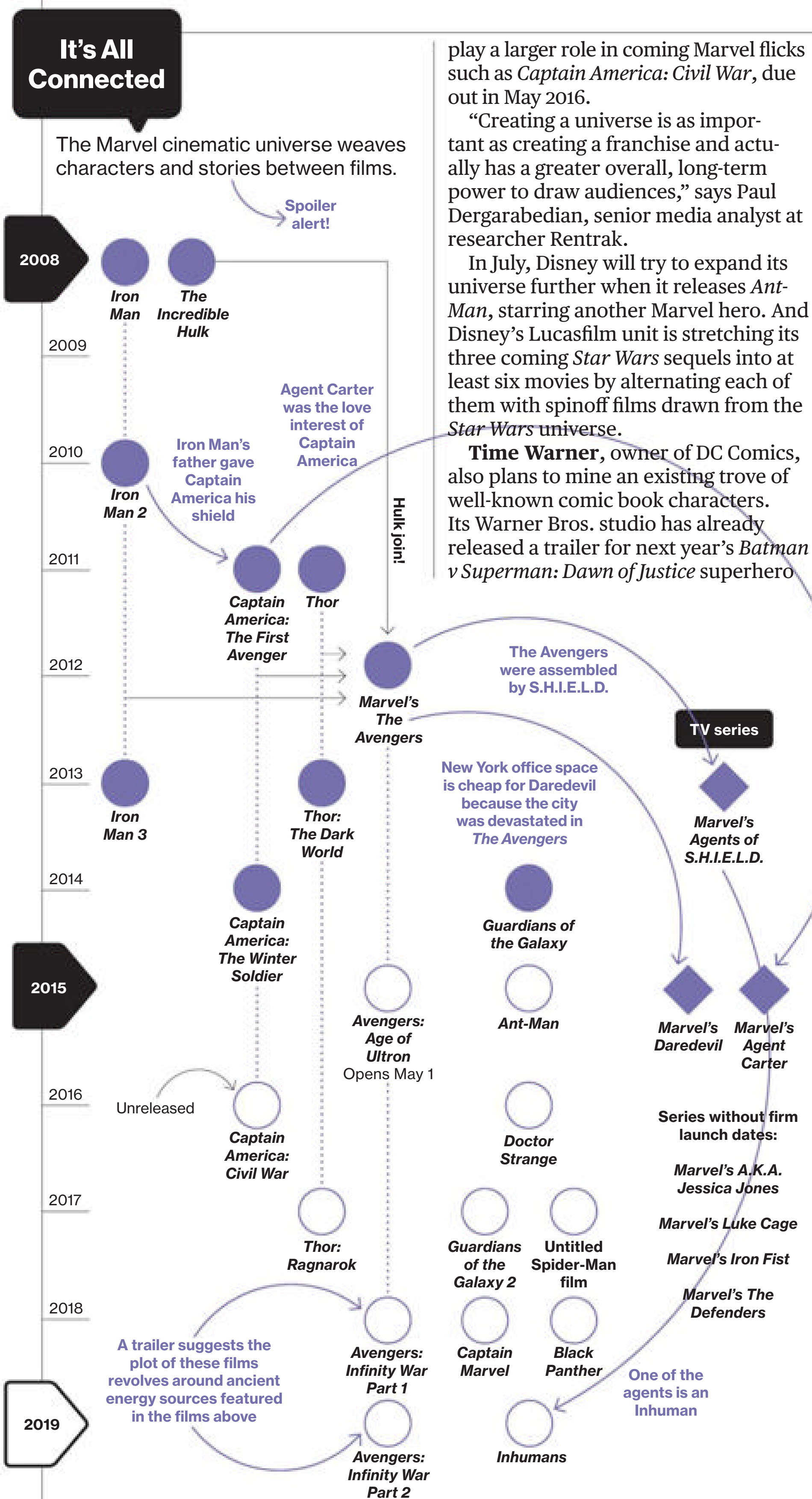
"It's a way to stand out in a very crowded market," Reitman says. "If the movies are good, and the word of mouth is good, when there is a universe of films, it has a multiplier effect."

In Hollywood it's not enough any more to make a blockbuster like *Mission: Impossible* or *The Terminator* and churn out a sequel every few years. Studios are thinking in terms of a cinematic universe, a term coined by **Walt Disney**'s Marvel Studios for its strategy of cross-pollinating its films with common characters, settings, and plot elements. The resulting web of stories has created a box-office lineup that's both deeper and easier to keep fresh.

The larger family of interconnected characters also has let Disney expand the universe beyond the big screen. The *Agents of S.H.I.E.L.D.* series, which has featured characters from Marvel's Thor and the Avengers movies, appears on Disney's ABC Television network. And there are Disneyland theme-park meet-and-greets with Captain America, who appears in two of his own films and both Avengers movies. ABC's *Agent Carter* and *Agents of S.H.I.E.L.D.* series also share plot points with the films.

Since Marvel introduced its cinematic universe in 2008, the 10 films it had released by late April have grossed more than $7.2 billion worldwide, according to Box Office Mojo. Two of the films, *Marvel's The Avengers* and *Iron Man 3*, are among the 10 biggest-selling movies of all time.

The potency of the universe strategy will factor prominently in Marvel's lineup this year. In *Avengers: Age of Ultron*, opening on May 1, icons Captain America, Hulk, Thor, and Robert Downey Jr.'s Iron Man take a break from their solo movies to jointly crack jokes while saving the world. Their previous ensemble effort, 2012's *Marvel's The Avengers*, logged $1.5 billion in global ticket sales. But trailers for the film have teased that some new backbenchers will also get screen time in this second installment, introducing characters who later can move to their own films or ▶



DATA: INTERNET MOVIE DATABASE, BOX OFFICE MOJO, MARVEL

play a larger role in coming Marvel flicks such as *Captain America: Civil War*, due out in May 2016.

"Creating a universe is as important as creating a franchise and actually has a greater overall, long-term power to draw audiences," says Paul Dergarabedian, senior media analyst at researcher Rentrak.

In July, Disney will try to expand its universe further when it releases *Ant-Man*, starring another Marvel hero. And Disney's Lucasfilm unit is stretching its three coming *Star Wars* sequels into at least six movies by alternating each of them with spinoff films drawn from the *Star Wars* universe.

Time Warner, owner of DC Comics, also plans to mine an existing trove of well-known comic book characters. Its Warner Bros. studio has already released a trailer for next year's *Batman v Superman: Dawn of Justice* superhero mashup. The studio plans 10 films based on DC characters through 2020, including a standalone *Wonder Woman* and *The Justice League Part One*, a kind of crime-fighter all-star team, both in 2017. On April 20, the company confirmed the release dates of three Lego films, including *Lego Batman* in February 2017. At least three films of a Harry Potter spinoff, *Fantastic Beasts and Where to Find Them*, are also in the works for release starting in 2016.

Ghostbusters could prove a tougher test for Sony, as the franchise hasn't seen the big screen for 26 years. Reitman says the Ghostbusters brand has maintained its value, making it ripe for expansion. He envisions something other than the effects-driven superhero flicks that dominate studio slates. "There is so much of the same," he says. "You can only blow up New York so many times."

Universal Studios is mining its library of classic monster films, starting with a remake of *The Mummy* next year. Analysts see a sure bet in the studio's *Minions*, a prequel to its hit *Despicable Me* movies. It's projected to be one of this summer's biggest films. The animated picture tells the back story of the little yellow creatures who speak an indiscernible language and do the bidding of the supervillian Gru. Universal already has Minions-based theme-park rides in Florida and California, and a third *Despicable Me* movie is set for 2017.

"I do think that cinematic universes are becoming more prevalent," says producer Akiva Goldsman, who's working on plans to create an "idea farm" for **Paramount Pictures**' four-film franchise based on **Hasbro**'s Transformer brand. Developing story lines over a longer period makes successful films more likely, says Goldsman, who compares what he's doing with Transformers to how groups of TV writers routinely huddle in a "writers room" for hours to flesh out a story line. "You are likely to have a deeper relationship with a character if you get to spend more and more hours with them," he says. John Frascotti, president of Hasbro brands, says the company also has written a 350-page bible that spans the genesis of the robot species on their home planet, Cybertron, and beyond. Although a fifth film is slated for 2017, less than a quarter of these stories have been used, he says. "The source material is so rich," Frascotti says, "we've

only mined a small portion so far."

Marvel figures into the universe plans of other studios, as well. Spider-Man, whose movie rights have been held by Sony since Disney bought the comic company, will appear in a future Marvel film, under a deal announced in February. Other Marvel characters may appear in Sony's future Spider-Man films. **21st Century Fox**, meanwhile, is giving standalone features next year to Deadpool and Gambit, two characters from its *X-Men* franchise (another deal struck when Marvel wasn't making its own films). Sandwiched between will be *X-Men: Apocalypse* in May 2016.

Cowen & Co. analyst Doug Creutz says the risk is that so many studios' "nearly identical" franchise strategies will damage the ecology of the film business. "There is something to be said for leaving audiences hungry and wanting more," says Phil Contrino, chief analyst with BoxOffice.com. "Next year will be crucial for 'universes.' From 2016 onward we will see if the strategy can be pulled off." —*Anousha Sakoui and Christopher Palmeri, with Matt Townsend*

The bottom line The 10 Marvel films have pulled in $7.2 billion at the box office. That success has other studios copying the strategy.

Spirits

Graft Crackdown Sends Cognac to America

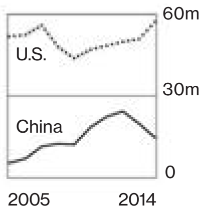
▶ Distillers are looking to the U.S. to boost sales

▶ "You've got to exploit your existing growth markets"

Cognac makers have had little to cheer about over the past two years as China's crackdown on graft and flashy gifts has damped demand for the French spirit. One bright spot is the U.S., where **Hennessy**, the world's largest cognac maker, is hoping to make up for declining sales in Asia.

To mark its 250th anniversary, Hennessy has dispatched two 250-liter barrels of cognac to the U.S. aboard a three-masted sailing vessel. The barrels set sail from Rochefort, France, on April 18 on the 213-foot frigate *L'Hermione*, a replica of the boat that in 1780 carried the Marquis de Lafayette to America to fight as a general in George Washington's army. The cognac is set to arrive in Yorktown, Va., in early June.

Bottles of cognac sold



Cognac sales by volume have contracted globally over the past two years. The main drag has been China, where exports fell 26 percent last year. **Rémy Cointreau**, the maker of Rémy Martin, saw profits dip 39 percent in the year ended March 2014. For Hennessy owner LVMH Moët Hennessy Louis Vuitton, total sales of cognac and other spirits slumped 10 percent in 2014, excluding currency swings, and fell an additional 1 percent in the first quarter.

Cognac exports to the U.S. rose 13 percent in 2014, according to the Bureau National Interprofessionnel du Cognac industry group. The U.S. accounts for about a quarter of Hennessy's sales. "Ten years ago, the likes of **Pernod**'s Martell and Rémy Martin more or less exited the U.S., viewing it as a low-growth market," HSBC analyst Antoine Belge says of the world's second- and third-largest brands.

The U.S. is mainly a low-end cognac market—the opposite of China, where consumers favor older, pricier blends such as Hennessy's X.O, which retails for about $200 a bottle. Hennessy's U.S. strategy includes pushing cognac cocktails like the 5th Avenue, a mix of grapefruit juice, pomegranate grenadine, Champagne, cognac, and soda, to African American and Hispanic drinkers. Analysts say the two groups make up the bulk of domestic demand. Hennessy has worked with celebrities, including rappers LL Cool J and Nas as well as former NFL defensive end and talk show host Michael Strahan, to promote the brand among African Americans. Nas has been featured in Hennessy ad campaigns since 2013. On the eve of the Grammy Awards, the company hosted a dinner in Los Angeles to celebrate LL Cool J's career. Events marking the 250th anniversary include a traveling art exhibition that will visit New York's Lincoln Center, among other locations.

"You've got to exploit your existing growth markets," says Jeremy Cunnington, an analyst at researcher Euromonitor International. "You can make a much more positive case for the U.S." than China.

American demand for cognac isn't enough to offset China's declining sales, says Sanford C. Bernstein analyst Trevor Stirling. So Hennessy is also trying to develop markets in Nigeria and Vietnam, which are seen as growth areas. "The key mantra for any brand is you need to have a broad geographic spread," Cunnington says. "Being strong in the U.S. is a positive." —*Andrew Roberts*

The bottom line The cognac industry saw overall sales decline globally in 2014, but exports to the U.S. rose 13 percent.

Autos

China Won't Let Toyota Ditch Its Electric Cars

▶ Beijing wants plug-ins. So automakers roll out new models

▶ "This is just a distraction, an unwanted headache"

Toyota Motor has made its view loud and clear: Hydrogen-powered cars are the future. That's why the world's largest automaker pulled the plug last year on the all-electric RAV4 EV crossover it developed with **Tesla Motors**. China, the world's largest auto market, isn't listening.

The government has begun a strategic initiative to build electric cars on the mainland and is encouraging foreign manufacturers and their local partners to get with the program. So as many as 40 electric models will go on sale in China this year—triple the number available two years ago—as automakers hew to the policies, Bloomberg Intelligence estimates.

"It is the cost of entry of being here," James Chao, managing director of IHS Automotive in Shanghai, says of the joint-venture electric vehicles. "A lot of it is kind of for show, and they just want to please the government."

Toyota will roll out the Leahead and Ranz all-electric brands with its China partners **Guangzhou Automobile** ▶

COURTESY TOYOTA; DATA: BUREAU NATIONAL INTERPROFESSIONNEL DU COGNAC

◀ **Group** and **FAW Group** starting this year. The models will make China the only market where Toyota sells EVs.

"They'll do some token launches and token sales, but I'm not expecting any waves," says Ashvin Chotai, managing director of researcher Intelligence Automotive Asia, who advised Mercedes-Benz owner **Daimler** and China's **BYD** on their Denza electric-vehicle brand for China. "This is just a distraction, an unwanted headache."

Carmakers say marketing an EV has become a necessity for those trying to win government approval to build factories. China's new auto fuel economy standards also call for a 28 percent drop in average per-vehicle fuel consumption by 2020—something likely to happen only if plug-ins are embraced. Toyota has shown guarded support in its public comments about electric cars in China. Company spokeswoman Kayo Doi says it will develop hybrids, plug-in hybrids, fully electric cars, and fuel-cell vehicles to offer a range of options to Chinese customers.

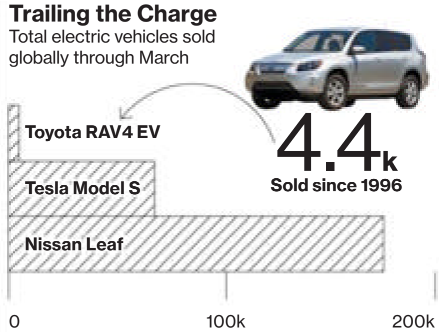
The chief engineer of Toyota's Mirai fuel-cell vehicle strayed from that company line in mid-April. At a test-drive with reporters in Yokohama, Japan, Yoshikazu Tanaka said the usefulness of EVs are dependent on quick-charging stations that are too taxing on local electric grids. "I don't think such cars will become popular," he said. But Hiroji Onishi, Toyota's chief executive officer for the China region, said on April 21 that because President Xi Jinping is accelerating the EV push, "we believe infrastructure including charging stations will be developed quite rapidly."

In markets including the U.S. and Japan, Toyota is betting its long-term clean-car future on the hydrogen-powered Mirai, which emits only water. The carmaker also continues to champion the gasoline-electric hybrid technology it pioneered with the Prius.

At the Shanghai auto show in late April, the Mirai was placed on a stage at the center of Toyota's stand while cars from the two local all-electric brands were relegated to the edges of its display area. Chairman Takeshi Uchiyamada, chief engineer of the original Prius, unveiled two made-in-China hybrid compact cars without a word about EVs.

"It is the cost of entry of being here. A lot of it is kind of for show, and they just want to please the government."
—James Chao, IHS Automotive

Trailing the Charge
Total electric vehicles sold globally through March



DATA: TOYOTA, NISSAN, TESLA COMPANY FILINGS

Besides Toyota, other China EV ventures in the works include **Volkswagen** and **SAIC Motor**'s Tantus, **Hyundai Motor** and **Beijing Automotive Group**'s Shouwang, and **BMW** and **Brilliance China Automotive Holdings**' Zinoro. Those additions may help China put 1 million to 2 million electric vehicles and other so-called new energy vehicles on its roads by 2020, estimates Andreas Graef, principal at A.T. Kearney in Shanghai. That's short of the country's 5 million target.

Even if electric vehicles take off, the new, unknown joint-venture brands have little chance of winning over large numbers of regular consumers to their EV models, says Steve Man, a Hong Kong-based analyst at Bloomberg Intelligence. So those cars are probably destined for China's local governments and utility companies, he says. *—Craig Trudell and Yuki Hagiwara, with Masatsugu Horie and Tian Ying*

The bottom line China wants electric cars to be produced on the mainland. So automakers will offer as many as 40 plug-in models this year.

Health

When You Need a Test—But Not a Doctor

▶ Diagnostics companies aim to market tests directly to consumers

▶ "There's a lot more patient involvement in their health care"

Two years ago, Erena DiGonis, a licensed clinical social worker in New York, visited a specialist who refused to order lab tests to check for a thyroid condition. So DiGonis went online and ordered the bloodwork herself. "It makes you feel like you're taking back your own health," she says of dealing with **Direct Laboratory Services**.

The growing number of patients like DiGonis who are bypassing doctors by ordering their own bloodwork hasn't been lost on **Laboratory Corp. of America Holdings**, the biggest U.S. diagnostics company and a major processor of samples taken at physicians' offices. So LabCorp next year will let customers go online to order tests, visit a service center to get blood drawn, and view their results on the Web.

Rapid and at-home diagnostics are a growing corner of the health-care market, with businesses such as DirectLabs and **WellnessFX** attracting patients who want to get sensitive results in private or monitor their health outside the traditional doctor's office. "We need to retake that territory for ourselves," says LabCorp Chief Executive Officer David King, whose company does the lab work for some of the direct-to-consumer testing outfits. "It's something we're doing already, and our capabilities are being utilized without us getting the benefit from a branding perspective."

LabCorp's direct-to-consumer business will initially be run online, although the company's also exploring a partnership with an undisclosed drugstore chain. It isn't saying which tests it will offer or how much it will charge. More than 20 states let residents order bloodwork without a prescription, according to Piper Jaffray.

The consumer appetite for health and fitness information is expanding as devices such as the Fitbit and Apple Watch offer more sophisticated ways to monitor the body. Industrywide projections are sparse, but in 2012 researcher Global Industry Analysts estimated that annual sales of direct-to-consumer lab work will total $233.7 million by 2018 for genetic testing alone.

Some doctors say many patients may not be equipped to fully interpret their test results. DirectLabs on its website says its results include the normal reference ranges for the biomarkers tested, with abnormalities indicated. It suggests patients contact their health-care provider for evaluation or a diagnosis.

For an extra fee, WellnessFX will arrange 20-, 30-, 40-, or 50-minute consultations with nutritionists, registered dietitians, or physicians who will discuss a patient's biomarkers over the telephone. Patients call a secure phone line for consultations and can send

follow-up questions later, according to the company's website.

"We have entered an era where there's a lot more patient involvement in their health care," says Steven Lamm, medical director of the Preston Robert Tisch Center for Men's Health at New York University's Langone Medical Center. "The concern is when you want to take control of your health without being properly informed about what you're actually testing."

DirectLabs offers routine tests such as a $29 metabolic panel–glucose, kidney, fluids, electrolytes, calcium, and liver–and a $49 measure of prostate-specific antigen, which the company says can be used to detect cancer. Other tests aren't so cheap. WellnessFX charges $988 for its most comprehensive package, which includes biomarkers for omega-3 fatty acids and fibrinogen, a liver protein. Customers can go to a local center to do their bloodwork and can add a 40-minute consultation with a physician to discuss the results.

Giant lab operators such as LabCorp and archrival **Quest Diagnostics** are looking for new sources of revenue as they contend with lower reimbursement from insurers and Medicare. Recent purchases of physician-owned medical practices by hospital companies have also siphoned off some of the lab work the major providers had traditionally done.

Quest's 2002 attempt to start a big consumer business, offering bloodwork through **CVS** stores in Florida and Ohio, fizzled by 2006. Now it offers a handful of tests directly to consumers online in some states. But the timing may be better for LabCorp today, says Piper Jaffray analyst William Quirk. "There's no question that consumers are more educated now than they were 5, 10, 15 years ago–that's thanks to the Internet and smartphones and apps," he says.

Still, Quirk is uncertain how many consumers will be confident seeking their own medical data. "This isn't like, What color iPhone do you want?" he says. "There's a reason you get a prescription for lab work done, because a physician is seeking information to make a diagnosis." —*Cynthia Koons*

The bottom line Lab companies are wooing residents of the more than 20 states where consumers can order their own bloodwork.

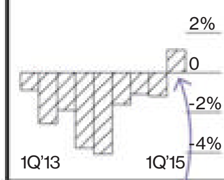
Edited by James E. Ellis and Dimitra Kessenides
Bloomberg.com

Briefs

By Kyle Stock

Stalled Hog

Harley-Davidson has gone into a rare skid. The motorcycle maker said it would scale back production as it struggles with a strong U.S. dollar. Not only is Harley's foreign revenue taking a hit, its international rivals are deeply discounting motorcycles in the U.S., winning share from the Milwaukee-based company. Harley said its retail sales in the first three months of the year fell by 1.3 percent, prompting a 10 percent drop in its stock price. *Blue Bell Creameries*, a large U.S. ice cream maker, is pulling all of its products from stores after a listeria outbreak. The private, family-owned company based in Brenham, Texas, identified the bacteria in test samples. The recall involves about 8 million gallons of ice cream and should take about two weeks. *Amazon.com* introduced a travel-booking platform, challenging Expedia and Priceline.com in the hospitality business. Amazon Destinations offers maps, hotel deals, and restaurant recommendations with an emphasis on short getaways close to a consumer's home. *Chipotle Mexican Grill* said it's having trouble finding pigs up to its standards. The company won't have enough pork in all of its restaurants until the end of the year; however, it's raising prices from 4 percent to 6 percent on its beef burritos and bowls. Sales rose by 20 percent in its most recent quarter, though analysts had expected even higher gains. Swedish truckmaker *Volvo* dismissed Chief Executive Officer Olof Persson and said it has recruited Martin Lundstedt, currently CEO of local rival Scania, for the job. Over a four-year tenure, Persson cut about 4,000 jobs and reduced spending but failed to boost profit margins.



Higher prices helped give **Coca-Cola** its first **quarterly sales gain** in two years. Sales by volume of its Coke Zero rose 5 percent globally in the first quarter, while the company poured 6 percent less Diet Coke.

Value of liquor stolen by what law enforcement officials in Kentucky call a bourbon theft ring. The trove included Pappy Van Winkle from **Sazerac** and Wild Turkey from **Davide Campari-Milano**.

$100k

CEO Wisdom

"Part of the formula for success in our business is making a big bet."

Under Armour CEO **Kevin Plank** discussing athlete sponsorships

RAV4: COURTESY TOYOTA; PLANK: KATIE KRAMER/CNBC/NBCU PHOTO BANK/GETTY IMAGES


HOW DO YOU KNOW WHAT YOUR CUSTOMERS WANT WHEN THEY DON'T EVEN WANT IT YET?
IT'S SIMPLE.
THE ANSWER IS SAP HANA.
What if you could predict the future by mastering the present? Major retailers use SAP HANA® to analyze hundreds of millions of transactions from tens of millions of customers to predict trends years in advance.
For more, go to **sap.com/simple**
© 2015 SAP SE. All rights reserved. Results based on specific system configurations. Customer results may vary.
SAP
Run Simple

April 27 — May 3, 2015

~~No way in hell.~~

~~Still not gonna do it.~~

~~I'll think about it.~~

~~Forget it.~~

Can someone else decide?

▶ Republican governors may pay a price for refusing to expand Medicaid under Obamacare

▶ "Why would we put state taxpayers on the hook?"

In 2012 the Supreme Court ruled that the federal government couldn't force states to expand eligibility for their Medicaid programs under the Affordable Care Act. Since then, the Obama administration has looked for ways to persuade Republicans who have steadfastly opposed Obamacare to participate in this key component of the act. The biggest incentive is the law's promise of federal funds to cover the whole cost of newly qualified Medicaid patients for three years, until 2016, and at least 90 percent of the costs thereafter. Nevertheless, 20 states have refused to ease access to their Medicaid rolls. A few have been able to eat their cake and have it, too: Because of special arrangements that predate Obamacare, four states that haven't expanded Medicaid have been getting billions each year in extra funding to pay for the care of people who are uninsured.

That's about to change. On April 14 the Centers for Medicare and Medicaid Services (CMS), which manages federal funding to the states for health programs, alerted Florida officials that CMS plans to let the $1.3 billion the state gets annually to help hospitals cover the cost of treating uninsured patients lapse at the end of June. "Uncompensated care pool funding should not pay for costs that would be covered in a Medicaid expansion," CMS wrote in its letter, which it released to reporters.

Rick Scott, Florida's Republican governor, responded two days later with a threat to sue the Obama administration. "It is appalling that President Obama would cut off federal health-care dollars to Florida in an effort to force our state further into Obamacare," Scott said in a public statement. On Fox News, Scott was more animated: "This is *The Sopranos*. They're using bullying tactics to attack our state." Scott's office declined to comment further.

Texas Governor Greg Abbott quickly joined forces with Scott. Texas' special Medicaid funding, which accounts for about half of the state's $3.4 billion pool to repay hospitals for treating uninsured patients, expires in September 2016. In an April 20 statement, Abbott, a former attorney general who took office in January, vowed to support Florida's suit. (As of April 22, no lawsuit had been filed.) "The Supreme Court made it very clear that the Constitution does not allow the federal government to use these coercive tactics against the States," Abbott said.

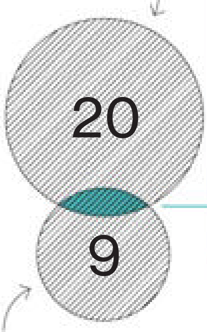
Florida and Texas are among nine states with high numbers of uninsured residents that struck deals with CMS for extra federal money to help hospitals, which are legally bound to provide care whether or not patients can pay. The arrangements, known as uncompensated care pools, are subject to periodic renewal and were also granted to Arizona, California, Hawaii, Kansas, Massachusetts, New Mexico, and Tennessee. Of those, only Kansas ▶

The Costs of Skipping Medicaid

Four states that have deals for extra federal money haven't expanded Medicaid

Uninsured adults who would qualify under expansion

States that have refused to ease access to their Medicaid rolls

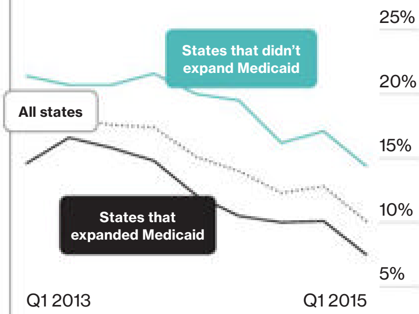


States with high numbers of uninsured residents that struck deals with CMS for extra federal money

Texas	**948,000**
Florida	**669,000**
North Carolina	357,000
Georgia	282,000
South Carolina	178,000
Alabama	176,000
Virginia	171,000
Louisiana	166,000
Missouri	147,000
Tennessee	**142,000**
Mississippi	107,000
Oklahoma	104,000
Kansas	**60,000**
Idaho	51,000
Nebraska	31,000
Utah	30,000
Maine	22,000
Wyoming	14,000
Alaska	10,500

DATA: KAISER FAMILY FOUNDATION; SOUTH DAKOTA NOT AVAILABLE

Percentage of adults without insurance



DATA: HEALTH REFORM MONITORING SURVEY

Drop in hospitals' unpaid bills

All states	$7.4b	
Nonexpansion states	**$2.4b**	16%
Expansion states	**$5.0b**	26%

DATA: CMS; GALLUP-HEALTHWAYS

◀ and Tennessee have joined Florida and Texas in continuing to resist Medicaid expansion.

Florida is the first to come up for review since the Affordable Care Act went into force. Scott, a Tea Party conservative, opposed expanding Medicaid when he took office in 2011, then reversed himself in 2013, saying in a news conference that with Washington picking up the tab, "I cannot, in good conscience, deny Floridians the needed access to health care." With his state legislature dominated by conservative Republicans, he wavered.

After learning CMS wasn't going to renew Florida's funds for uncompensated care unless the state increases access to Medicaid, the governor reversed course again, saying the threat proved the Obama administration couldn't be trusted to fulfill its promise to cover most of the cost of a Medicaid expansion, either. "Why would we put state taxpayers on the hook for something when we can't trust the federal government to fulfill a program they already started?" he said to reporters.

As Obama looks to cement his health-care accomplishments before the 2016 election, the White House seems to see an opportunity to exact a political price from Scott, Abbott, and other Republicans who continue to resist expanding Medicaid under the Affordable Care Act. "It's difficult to explain why somebody would think that their political situation and their political interest is somehow more important than the livelihood and health of 800,000 people that they were elected to lead," White House Press Secretary Josh Earnest said during an April 17 press briefing.

Texas and Florida together have 1.6 million people who could qualify for Medicaid under the wider eligibility criteria, according to estimates from the Kaiser Family Foundation. That's more than 40 percent of the people who would benefit from Medicaid expansion in the 20 states that have opted out. "What's going on here in Florida is probably just the first indication of where CMS is going with all of this for all states that have uncompensated care pools," says Bruce Rueben, president of the Florida Hospital Association, which backs Medicaid expansion.

In Tennessee, conservative lawmakers who control the legislature killed Republican Governor Bill Haslam's request to expand Medicaid earlier this year. Kansas Republican Governor Sam Brownback, who has long opposed Obamacare, recently signaled that he might be willing to change his position in the face of a $400 million budget gap. CMS won't say whether states that decide to expand Medicaid will get to keep their low-income pools. "Discussions with each state will also take into account state-specific circumstances," says CMS spokesman Aaron Albright.

States resisting Obamacare's Medicaid expansion shouldn't expect the federal government to extend special funds that are "above and beyond the normal workings of Medicaid," says Cindy Mann, a former top Medicaid official in the Obama administration who's now a partner at law firm Manatt, Phelps & Phillips. "These were all started before the Affordable Care Act, and it's not surprising CMS is looking to focus its funding on these pools for care that wouldn't be otherwise covered by Medicaid."

Some governors have found conservative-friendly compromises to take federal Medicaid money and use it to expand private coverage. That approach gave Indiana Governor Mike Pence, a Republican, and former Arkansas Governor Mike Beebe, a Democrat, political cover in states where "Obamacare" is a dirty word. Florida's Senate backs such a proposal. If Scott can't find a political compromise to get there, he may be the first Republican governor to learn just how costly disagreeing with the Obama administration over health care can be. *—John Tozzi and Margaret Newkirk*

The bottom line Florida Republican Rick Scott is picking a fight with the White House on Medicaid, even though he risks a budget hit.

White House

Michelle Obama Gives Back the Mad Money

▶ A $12,000 annual gift for first ladies runs up against the law

▶ "If he'd died this year with this thing, it could go on forever"

In 1912, Henry Freeman Jr., a wealthy Philadelphia lawyer and real estate investor, set aside money in his will to provide the first lady of the United States with $1,000 a month, or $12,000 a year, "for her own and absolute use." The money, he determined, would be held in the Henry G. Freeman Jr. Pin Money Fund—a reference to a common

BROOKS KRAFT/CORBIS

idiom for spending money husbands gave their wives. Freeman, whose estate was worth more than $2 million when he died, wrote in the will that he felt the president was paid "a miserable pittance for a man holding the greatest position on earth." It was $75,000 then, worth more than $1.3 million in today's dollars, more than triple the $400,000 President Obama is paid. He found it even worse that first ladies—or anyone serving as the White House host—got nothing at all. The payments, Freeman instructed, would continue "in force as long as this glorious government exists."

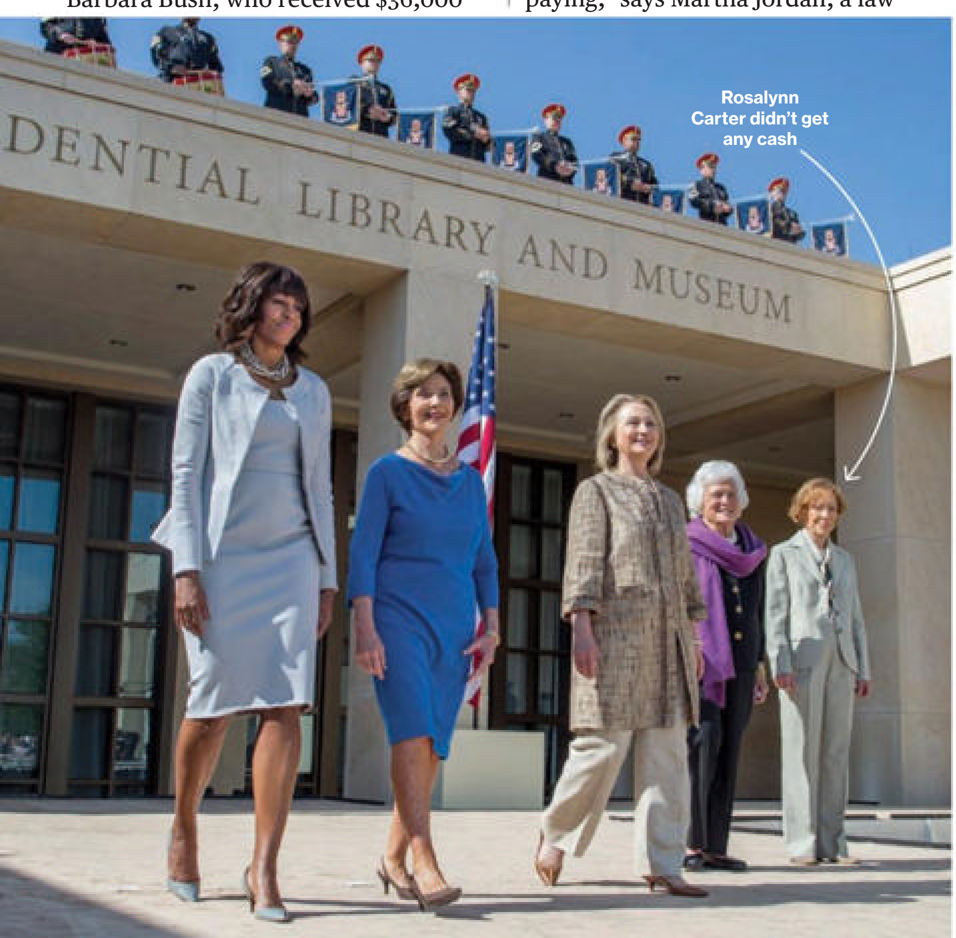
The U.S. government continues to exist, but according to the Obamas' tax returns, Michelle Obama hasn't gotten any pin money since 2010, when she received $10,000 from the Freeman fund. It turns out the grandiose terms of Freeman's will collided with a legal doctrine known as the Rule Against Perpetuities, which puts a 21-year limit on some noncharitable bequests following the death of the last surviving beneficiary.

Freeman died in 1917. His pin money fund began paying out in 1989, after Freeman Burrows, his last direct heir, died. The first first lady to benefit was Barbara Bush, who received $36,000 in a single lump sum in December 1992, 90 years after the will was written, once probate courts released the funds. At the time, a Bush family spokesman said she gave some of the money away and used the rest to "do something nice for her grandchildren," the *Washington Post* reported. When Bill Clinton was in the White House, Hillary Clinton reported in her annual tax disclosure that she donated her payments to charities, but she declined to specify which. Laura Bush didn't say what she did with the money. By the time Michelle Obama arrived at the White House, the annual pin money disclosure had become a quirky but familiar feature of the first family's annual tax returns.

Then, after the Obamas released their taxes in 2011, it vanished. Pennsylvania abolished its rule against perpetuities in 2006, but because Freeman's death predates that change, it's not clear whether the money should still be paid out or not. When the clock struck 21 years after Freeman Burrows's death, the estate's trustees at **Wells Fargo** (the current successor of Henry G. Freeman's Philadelphia bank) faced a dilemma. "The trustees probably got nervous and stopped paying," says Martha Jordan, a law professor at Duquesne University in Pittsburgh, who's written about the state's rule against perpetuities. Wells Fargo declined to comment, citing privacy rules.

Obama solved the problem by releasing her claim to the cash and directing the trustees to disburse the remaining funds to charities named in Freeman's will, including a hospital and school in Philadelphia. (The White House and Wells Fargo wouldn't name them.) "If he died this year with this thing, it could go on forever," Jordan says. "Whether that is a good idea is a whole nother question." —*Richard Rubin, with Michael Weiss*

The bottom line An unusual gift to first ladies, meant to endure as long as the U.S. government, has run into legal problems.



Rosalynn Carter didn't get any cash

Military

The Pentagon's Expensive Little Secret

▶ Defense contractors' invisible bidding war for a new bomber

▶ "This is the closest I've seen to a horse race in years"

On Super Bowl Sunday viewers in two cities, Washington and Dayton, saw a 30-second spot for **Northrop Grumman**, one of the nation's premier aerospace contractors. It featured a trio of smooth gray planes—the company's 1940s-era YB-49 prototype, a B-2 stealth bomber, and its X-47B drone—in a dimly lit hangar. A fourth was concealed under a draped sheet. "To build an aircraft the likes of which the world has never seen," the announcer intoned at the end. "This is what we do." The commercial was deliberately oblique, but its target audience—lawmakers in Congress and U.S. Air Force acquisition officials stationed at the Wright-Patterson base outside Dayton—knew exactly what Northrop was advertising. The company, whose B-2 first flew in 1989, wants to build the Pentagon's next generation of stealth bombers.

The bidding war for the contract has been shrouded, too. The Air Force is expected to announce the winner in the next few months. It pits Northrop against a joint bid by **Lockheed Martin** and **Boeing**, the two biggest U.S. defense ▶

◀ contractors. The last time the U.S. Air Force developed a stealth bomber, the result was the B-2, which cost $2 billion apiece. The Air Force estimates the new bomber will cost at least $550 million per plane, or $55 billion for a planned fleet of 100 aircraft. The Air Force has committed to spend $15.1 billion through 2020 to develop the new bomber, not including classified funding, with outlays increasing from about $349 million in 2014 to $1.2 billion next year, according to the latest Air Force budget plan. "This is the closest I've seen to a horse race in years," says Richard Aboulafia, vice president of analysis for Teal Group, a private research firm in Virginia. "Normally, you'd have a feel for somebody having an edge, but I just can't read this one."

$1.2b

White House 2016 budget request for stealth bomber development

Pentagon officials say they need to replace aging bombers, including the B-2, which is the only plane that can carry the heaviest U.S. conventional bomb, the 30,000-pound bunker buster, formally known as the Massive Ordnance Penetrator. It would be used if the U.S. sought to destroy targets like Iran's nuclear facilities. The B-2 also carries nuclear weapons as part of the land-sea-air triad that's intended to deter nuclear-armed countries such as Russia, China, and North Korea. The other bombers in the U.S. arsenal—the B-52 and the supersonic B-1—have no stealth characteristics and can't fly in hostile environments where the enemy has modern air defenses. "Our adversaries recognize the advantage that stealth brings," says Air Force Major General Paul Johnson, the service's deputy chief of staff for strategic plans and requirements. "We're working hard to maintain that advantage."

Winning the competition is critical for Northrop, which doesn't have a prime contract on a defense aerospace program to rival Lockheed's F-35 fighter or Boeing's KC-46A Pegasus tanker. Without it, Northrop would have to rely more heavily on its drone and radar businesses, says Douglas Rothacker, an analyst with Bloomberg Intelligence. "If Northrop doesn't win this contract, where does that leave them in the combat aircraft production landscape?" he says. "They would be pretty much out of the game."

Along with the Super Bowl air time, Northrop bought ads on Google offering a link to its website featuring the commercial when people searched for "Long-Range Strike Bomber," the Air Force's name for the new plane. While Northrop's campaign has focused on its experience building stealth planes, its competitors have been promoting their role in sustaining local economies. Jim McNerney, Boeing's chairman and chief executive officer, said on a Jan. 28 conference call with investors that winning the bomber "will solidify the future of St. Louis for many, many years to come," as orders for the F-15 and F/A-18 fighter jets made at its plant there dwindle.

The secrecy around the stealth program has prevented public discussion of why it's worth the investment of tens of billions of dollars. Critics say it's irresponsible for the Air Force to ask taxpayers to fund it. "We're making a huge bet on a program with limited ability," says T.X. Hammes, a retired Marine and research fellow at National Defense University's Institute for National Strategic Studies.

Supporters of the program also say they'd welcome more debate. "The Air Force has said flat-out nothing about this," says Rebecca Grant, who worked on the B-2 for the Air Force in the 1990s and is now president of IRIS Independent Research in Washington. "I think they're making a big mistake." *—David Lerman, with Julie Johnsson and Richard Clough*

The bottom line Defense contractors are quietly battling for $55 billion in federal money to build the next generation of stealth bombers.

Elections

A Scourge of Wall Street Joins the Clinton Team

▶ **Former CFTC chair Gary Gensler will be the campaign's CFO**

▶ **"Campaigns are inherently messy. That's why this was a good hire"**

In the final 20-hour marathon to finalize the Dodd-Frank Act in Congress in 2010, Gary Gensler sat directly behind former Senator Blanche Lincoln, the Arkansas Democrat leading the negotiations over the derivatives section of the bill. Gensler, a former Goldman Sachs partner, was then the chairman of the Commodity Futures Trading Commission, which he transformed from a regulatory backwater into a tough financial-industry watchdog. As the night dragged on, Gensler whispered regularly into Lincoln's ear about which changes to accept and which to block. No lawmakers or staffers at the time could remember an agency chief doing anything remotely similar.

Now Gensler, 57, is poised to whisper into the ear of Hillary Clinton, who's hired him to be chief financial officer of her presidential campaign. His selection is seen as a message to Massachusetts Democratic Senator Elizabeth Warren and others to Clinton's left that she won't get too cozy with Wall Street as she raises money. "This is sending a signal," says former Democratic Representative Barney Frank of Massachusetts, who sponsored the Dodd-Frank Act to reform U.S. financial institutions in the wake of the 2008 financial crash.

"He was unquestionably the most activist chairman of any of the regulatory agencies." —*Former U.S. Senator Judd Gregg*

Gensler is also a longtime Clinton donor who worked for her campaign in 2008 as an economic policy adviser. He's widely seen as someone who can manage donors, tell powerful people no, and keep a close eye on the bottom line. "Campaigns are inherently messy," Frank says. "That's why this was a good hire."

The son of a Baltimore cigarette- and pinball-machine vendor, Gensler obtained an MBA from the University of Pennsylvania's Wharton School and then went to work at Goldman Sachs, where he become one of the youngest partners in the firm's history. He quit in 1997 at 39, with investments he has reported in financial disclosures to be worth more than $15 million, and joined the U.S. Department of the Treasury in the second Bill Clinton administration. He rose to become under secretary of domestic finance under former Treasury Secretary Robert Rubin, also a former Goldman executive.

After Clinton left office, Gensler moved to Capitol Hill, where he served as a senior adviser to former Senator Paul Sarbanes, a Maryland Democrat who

FROM LEFT: CORBIS; CHIP SOMODEVILLA/GETTY IMAGES; MIKE BURLEY/TELEGRAPH HERALD/AP PHOTO

was then chair of the Senate banking committee. It was also a time when much of his focus was on another role: being a dad. Gensler has raised his three daughters as a single parent since his wife died of cancer in 2006.

When Barack Obama won the 2008 Democratic primary, Gensler joined the campaign. After the Wall Street crash, he was one of the people the new president made responsible for repairing the U.S. financial system. He was appointed to head the CFTC, where he pushed, prodded, and flat-out told lawmakers and staff to give his agency more authority to oversee the $700 trillion derivatives market, a previously opaque area of the financial marketplace blamed for accelerating the 2008 financial crisis. “He was unquestionably the most activist chairman of any of the regulatory agencies,” says Judd Gregg, a former Republican senator from New Hampshire, who worked as a lobbyist for the securities industry after leaving Congress. “He had a very clear agenda.”

In the months before the Dodd-Frank law was finished, Gensler accepted an invitation to lunch at New York’s Waldorf Astoria hotel with executives from Goldman Sachs, Credit Suisse, Deutsche Bank, Bank of New York Mellon, and others. He told them his duty was to taxpayers, according to people who attended. Asked to name the main obstacle to fixing the system, he pointed directly at his hosts and replied simply: “You.”

In January 2014, after five years, Gensler left the CFTC. In the months since, guessing what Gensler would do next became a popular parlor game in Washington. Most settled on the same answer: become a major fundraiser for Hillary Clinton. Joining her campaign staff puts him one step closer to the action and potentially to a cabinet appointment in a Hillary Clinton administration. For Clinton, whose last campaign suffered from poor management, Gensler offers both policy expertise and executive experience: He ran the CFTC for years on lean budgets and with stretched staff, much like a campaign. “He’s a force,” Gregg says. “It’s that simple.” *—Phil Mattingly and Silla Brush, with Robert Schmidt*

The bottom line Hillary Clinton has turned to Gary Gensler, a Wall Streeter turned watchdog, to manage her 2016 finances.

Edited by Allison Hoffman
Bloomberg.com

A March 5 train derailment in Illinois

A Bill No More Fireballs

By Jim Snyder

S. 859 Crude-by-Rail Safety Act

The essentials

1. In May the U.S. Department of Transportation is expected to release safety standards for tank cars used to haul more than 1 million barrels of highly flammable crude oil daily, most of it from fields in North Dakota through suburbs and cities on their way to refineries across the country. Based on draft rules released last July, the regulations will give tank car owners two or more years to upgrade tankers known as DOT-111s to newer models that are less likely to rupture in a crash.

2. Accidents in February and March triggered major fires in Illinois, West Virginia, and Ontario. Amid concerns the new DOT rules won’t put an end to oil-train explosions, Senator Maria Cantwell, a Washington Democrat, has introduced legislation that would require railroads to stop transporting oil in dangerous DOT-111s immediately. It would also require the DOT to set a maximum threshold for the volatility of oil carried by train, shifting some responsibility to oil producers.

3. While Cantwell’s bill awaits consideration, the DOT has added restrictions on oil trains. On April 17 the agency issued an order requiring trains carrying flammable oil and ethanol through urban areas—including New York, Chicago, and Washington—to slow to less than 40 mph, a speed limit some railroads voluntarily agreed to in 2014. “This order is necessary because of the recent occurrence of railroad accidents,” the department said.

Vital statistics

Sponsor
Maria Cantwell (D-Wash.)
Co-sponsors
Dianne Feinstein (D-Calif.)
Patty Murray (D-Wash.)

Section 1 Short Title p. 1

Section 2 Definitions pp. 1-2

Section 3 Certainty on Safety Regulations pp. 2-4

Section 4 Ending Use of Unsafe Tank Cars pp. 4-6

Section 5 Crude-by-Rail Inspections pp. 6-8

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Section 8 Oil Spill Response Plans pp. 11-15

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Section 10 Emergency Response Resource Inventory pp. 16-17

Section 11 Confidential Close Call Reporting Systems pp. 18-23

Section 12 High-Hazard Flammable Train Liability Study pp. 23-25

Section 13 Review and Recommendations pp. 25-27

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27

CAT: ZOONAR GMBH/ALAMY. THE MASK: MOVIESTORE COLLECTION LTD/ALAMY. BEZOS: MARIO TAMA/GETTY IMAGES. SWIFT: KEVIN WINTER/GETTY IMAGES. CAMP: COURTESY OPERATOR

Amazon's Cloud Is Worth HOW MUCH?

▶ The company is finally revealing its cloud revenue as old and new rivals play catch-up

▶ "None of us thought we would get a seven-year head start"

Amazon.com has been the dominant name in cloud computing for so long, it's easy to forget it wasn't the first. In 2005, Sun Microsystems announced plans to build what would come to be known as a cloud platform, a series of large, Sun-managed data centers from which the company could rent storage or data-processing power to customers over the Internet. The idea was to charge $1 an hour per rented machine, a huge shift for a company whose business hinged on selling multimillion-dollar hardware. And indeed, it didn't work: Sun had trouble building the data centers and even more difficulty selling the idea of rented computing to chief information officers used to buying large pieces of iron outright.

"There was no way at Sun you could take an order for 10¢ or a dollar. It's an enterprise sales model," says Adrian Cockcroft, who was an engineer at Sun in the runup to the company's cloud launch and is now a technology fellow at Battery Ventures. "We had the right idea. We didn't have a mechanism to take it to market."

In swooped Amazon, best known at the time for selling books and housewares. The online retailer introduced its own cloud rental system, the future Amazon Web Services, in 2006 and has since turned cloud computing into a mainstream phenomenon almost single-handedly. In its quarterly earnings report scheduled for release on April 23, Amazon planned to disclose the numbers for its cloud business for the first time. Annual revenue from AWS is about $6 billion, estimates Deutsche Bank analyst Karl Keirstead. That's about 10 times the revenue of its closest competitor in the public cloud market. Amazon's cloud operation may be the fastest-growing corporate technology business of all time.

For about a decade, Amazon has left the big names in hardware struggling to catch up, including **Dell**, **IBM**, **Hewlett-Packard**, and, yes, Sun (now part of

Oracle). "One of the biggest surprises around this business has been how long it took the old-guard companies" to release competing products, says Andy Jassy, the head of AWS. "None of us thought we would get a seven-year head start." He says AWS will eventually bring in more revenue than Amazon's retail operation, which has about $83 billion in annual sales. To do that, the company will have to fend off rivals that appear to finally have competitive products, from **Microsoft** and **Google** to a number of nimbler startups.

Amazon stumbled into the business. In the early 2000s the company's fledgling Merchant.com program built online stores for other retailers, such as Marks & Spencer. Because Amazon's own software systems were often unwieldy and redundant, "It turned out to be way harder and more time-consuming than any of us imagined," Jassy says. By the time engineers had solved that problem and built much simpler, independent computing systems, they figured the gear could work for a much wider audience. "We wanted to enable any individual in his or her dorm room to have the access to the same price and cost structure and scalability and infrastructure as the largest companies in the world," says Jassy.

Unlike Sun and other big hardware makers, Amazon pitched a relatively cheap product to masses of developers rather than CIOs. That allowed it to roll out an imperfect service and add features later. "Large tech companies usually wait to launch until they've built all the bells and whistles their development team can imagine," Jassy says. "We thought it was very important to be first to market." The gamble paid off fast: Four months in, its storage service held more than 800 million files. Within two years, startups such as **Dropbox** had based their whole business model on cheap Amazon hosting; by 2013, giants such as **Netflix**, which accounts for about one-third of the network traffic in North America on a given night, had committed to running their businesses on AWS's cloud.

Since then, rivals including Microsoft and Google have built data centers capable of matching Amazon's cloud storage. They've also ushered in a cloud price war, driving the cost to store gigabytes of data or access a powerful processor down to pennies an hour. "Amazon's main competitor is undoubtedly Microsoft," says Lydia Leong, a cloud analyst at researcher Gartner. Yet annual revenue from Microsoft's cloud service, Azure, runs somewhere between $500 millon and $700 million, estimates Deutsche's Keirstead.

Amazon's cloud operation may be the fastest-growing corporate technology business of all time

Some of that disparity is due to Amazon's advantage in striking first—it would be a huge pain for Dropbox or Netflix to switch cloud services. But competitors have also struggled to keep pace with Amazon's features and services. In 2012, Amazon was the first to roll out its own database service and rentable computers that used faster, more efficient flash memory instead of conventional hard drives. The same year, the AWS Marketplace opened to let companies sell business software to each other, reaping small fees for Amazon. Last year, Amazon launched a database designed to accommodate corporate clients typically served by big companies such as Oracle. "They are essentially pursuing world domination," says Leong.

To keep growing, Amazon must lure ever-larger customers from their dependence on on-premises data centers. That can be a tough decision for potential clients. "It's scary for everyone involved in the chain," says Rich Ridolfo, senior director for operations at HealthSuite, a division of European conglomerate **Philips** and a recent Amazon convert. "It is a fundamental shift in thinking for everybody." Ridolfo says his division plans to load petabytes of data into AWS, equivalent to more than a decade of HD video, every year.

Amazon must also continue to satisfy the needs of its bedrock of developers. Here, it faces challenges from startups, most notably **DigitalOcean** in New York. Since its 2011 founding, DigitalOcean has raised almost $100 million in funding and opened nine data centers around the world, according to Chief Executive Officer Ben Uretsky. It's taken Amazon's early business model a couple of steps further, renting computers to developers for absurdly low prices. Uretsky says his best-seller is a computer that coders can have access to for $10 a month or as little as a penny and a half per hour. Instead of pitching to customers Amazon already has locked up, he says, "We're focused on the millions of developers, services, and sites that are coming to market every single month."

DigitalOcean has become the third-largest hosting company in the world, backed by 154,000 computers, according to researcher Netcraft. Amazon and Microsoft both say they use more than 1 million servers to support their clouds. Gartner's Leong says there are limits to DigitalOcean's growth, because it doesn't target big businesses. Uretsky agrees—he says the company is aimed at independent developers.

For Amazon to maintain its cloud growth, it has to rustle up some new markets without cannibalizing existing business. Since AWS sold a private cloud system to the CIA in 2013, Jassy says, the company has been flooded with requests for similar deals. Amazon is building software to help businesses with old-school data centers manage their iron, he says. But it won't sell anyone else the software needed to make their computers work like Amazon's cloud. *—Jack Clark and Ashlee Vance*

The bottom line Amazon's cloud business brings in about 10 times the revenue of nearest competitor Microsoft, by one estimate.

E-Commerce

A Shopping App That Uses Human Eyes

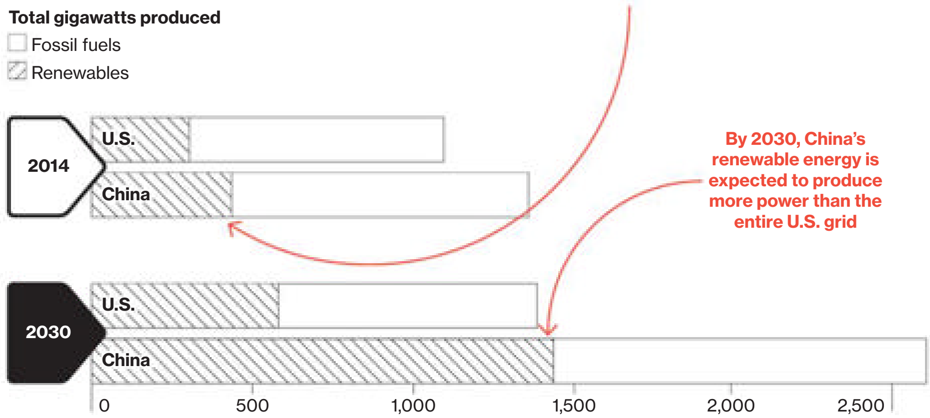
▶ Uber's chairman is readying startup Operator, his next big idea

▶ "It's like Siri, but with a person on the other end"

Garrett Camp made a fortune helping people navigate the digital world, then a far larger fortune helping them navigate the physical one. The Canadian-born Camp co-founded StumbleUpon, the early online links hub, in 2002, sold it to ▶

Energy Apple Joins a Vast Solar Network

Apple said on April 16 that it's investing an undisclosed amount in two solar projects in China's Sichuan province with an output totaling 40 megawatts. Although it's the biggest deal of its kind for a U.S. company operating in China, it's a small piece of China's plans for fossil fuel alternatives.
—*Tom Randall*



DATA: BLOOMBERG NEW ENERGY FINANCE

◀ EBay for $75 million in 2007, and bought it back for 40 percent less in 2009. That same year, it occurred to him that many taxi drivers tooling around in search of their next fares had smartphones in their pockets and could be easily summoned by an app that made use of GPS data. The idea became **Uber**, and co-founder Camp is now worth an estimated $5.3 billion. As Uber's chairman, he doesn't have an operational role at the company, so he had enough time last year to found the tech industry incubator **Expa**, spread lavishly across the 27th floor of a downtown San Francisco office tower.

Now Camp is ready to introduce what he calls his next big idea: **Operator**, a company that aims to synthesize navigation of the digital and physical worlds. Its app uses a combination of algorithms and human assistants to connect consumers with retail workers who can help them shop. For example, if a potential customer wants to replace a particular pair of shoes, she can snap a photo of the old ones and upload it to the app, which routes the request to a relevant store that's also using the app. There, a salesperson can respond with info, prices, or photos of merchandise. The customer can then buy her replacement shoes through the app and arrange delivery, Camp says. "Our goal is to help people find the right product within the right store and to do it interactively," he says. "It's like Siri, but with a person on the other end."

Operator lets consumers send requests for items and swap messages with participating merchants. They can browse available wares from stores on a discovery page that looks more like a conventional e-commerce site. To help stores understand each person's taste, user profiles will display an individual's stated product preferences and past purchases. And, as with Uber, everyone rates his experiences. A "Buy it now" button lets customers complete transactions directly on the app. So far, Operator isn't charging fees; Camp wouldn't say how he plans to make money from it.

Operator brings Camp into the crowded world of e-commerce, dominated by giants such as **Amazon.com**, EBay, and **Walmart.com**. The challenges are immense: To gain traction, Operator must get enough customers and merchants using its app in an array of competitive product categories, from furniture to shoes. Because the company is also hiring its own operators to field some customer requests, it will have much higher expenses than a typical startup in the low-margin retail business. Camp says human expertise and taste will give him an advantage over algorithms when dealing with clothes and home décor, which are tough to comprehensively categorize and display online. He's also betting that retail workers will have ample downtime to field requests from his app. Operator isn't ready to name any retail partners, however, and stores may be less enthusiastic.

Camp conceived of Operator in 2013 with co-founder Robin Chan during a research trip to Asia. Camp and Chan, a former Zynga executive and early investor in Xiaomi, saw Chinese consumers making retail purchases using messaging apps. They also talked about the absence of telephone operators in the smartphone era. "We wondered, Why can't you press an app and there's a network of human beings that help you?" says Chan, now Operator's chief executive officer.

The co-founders say their service will go live in New York and San Francisco later this spring but wouldn't say how many operators they'll have on hand. They say they have a few ideas about how to make money down the line. "If there's real transaction volume going through this, we will find ways to build a business on it," says Josh Elman of **Greylock Partners**, which, along with Camp's Expa, led a $10 million round of funding for Operator.

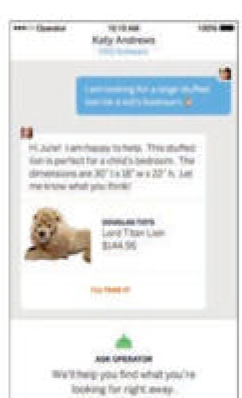
One of the biggest challenges may be making sure shoppers can get their purchases delivered. So far, Camp and Chan plan to rely on individual stores to work that out with customers. One obvious possibility is for Operator to use Uber drivers for delivery. "There are many options and scenarios where the companies can cooperate," says Chan, who, in keeping with Silicon Valley's post-Uber bravado, calls

Operating Operator

❶ Users seek help locating goods

❷ Operator routes the request to one of its assistants or a nearby store

❸ Capitalism!



FROM LEFT: COURTESY APPLE; COURTESY OPERATOR; BILL PUGLIANO/GETTY IMAGES

Operator a $100 billion idea. Camp is less outwardly bullish. "I can never predict these things. I couldn't predict the success of Uber," he says. "Let's put it this way: It looks more like Uber than a traditional social media site."
—*Brad Stone*

The bottom line Uber's chairman is trying to take on the likes of Amazon and EBay with a personal-shopper app that uses real people.

Autos

How Google Almost Bought Tesla

▶ On the verge of bankruptcy, Elon Musk asked for help

▶ "If we don't deliver these cars, we are f---ed"

This story is excerpted and adapted from Elon Musk: Tesla, SpaceX, and the Quest for a Fantastic Future *by Ashlee Vance, due out on May 19 from Ecco, an imprint of HarperCollins.*

On May 8, 2013, **Tesla Motors** shocked just about everyone by posting its first-ever quarterly profit, reporting higher-than-expected demand for its Model S electric sedan. That moment marked the beginning of a turnaround for Elon Musk's volatile automaker. The next year would see the Model S win most of the automotive industry's major awards, and Tesla's share price rise roughly fivefold, to more than $200. The 2013 profit announcement was fortuitous. Just weeks before, Tesla had been on the verge of bankruptcy.

Earlier in 2013 the company was struggling to turn preorders of its vehicles into actual sales. As Musk put his staff on crisis footing to save Tesla, he also began negotiating a deal to sell the company to **Google** through his friend Larry Page, its co-founder and chief executive officer, according to two people with direct knowledge of the deal. Tesla spokesman Ricardo Reyes and Google spokeswoman Rachel Whetstone declined to comment. "I don't want to speculate on rumors," Page says when I ask him if Google had considered buying Tesla, adding that a "car company is pretty far from what Google knows."

Although Tesla spent several years designing and building its flagship Model S, the car was still missing some features when it went on sale in June 2012. Its safety elements, software, and interior room were better than those of most luxury cars, but it didn't offer the parking sensors and radar-assisted cruise control of rivals like **BMW** and **Mercedes-Benz**. Glitches with the 2012 Model S door handles irked early buyers, as did some aesthetic choices such as the car's sun visors, which had unsightly seams.

A big part of the problem was a lack of resources, says former Tesla engineer Ali Javidan. "It was either hire a team of 50 people right away to make one of these things happen or implement things as best and as fast as you could." Musk chose the latter, Javidan says. Tesla also struggled to get top-rate suppliers to take it seriously, says chief designer Franz von Holzhausen. With the sun visors, he says, "we ended up having to go to a third-rate supplier and then work on fixing the situation after the car had already started shipping."

Tesla's first customers were prototypical early adopters who wanted a computer on wheels. By the end of 2012, many were grumbling about the bugs still to be worked out, and sales slowed to a trickle. "The word of mouth on the car sucked," Musk says. By Valentine's Day 2013, Tesla was heading toward a death spiral of missed sales targets and falling shares. Its executives had also hidden the severity of the problem from the intensely demanding Musk. When he found out, he pulled staff from every department—engineering, design, finance, HR—into a meeting and ordered them to call people who'd reserved Teslas and close those sales. "If we don't deliver these cars, we are f---ed," Musk told the employees, according to a person at the meeting. "So I don't care what job you were doing. Your new job is delivering cars."

Musk fired senior executives, promoted hungry junior employees, and assigned former Daimler executive Jerome Guillen to fix Tesla's repair service and get its glitchy cars back on the road. He also proposed what eventually became his public guarantee of the resale price of the Model S: Unsatisfied buyers would get their money back from Musk personally if they couldn't sell their car at a price comparable to that of another luxury model.

In the first week of March 2013, Musk reached out to Page, say the two people familiar with the talks. By that point, so many customers were deferring orders that Musk had quietly shut down Tesla's factory. Considering the straits he was in, Musk drove a hard bargain. He proposed that Google buy Tesla outright—with a healthy premium, the company would have cost about $6 billion at the time—and pony up an additional $5 billion in capital for factory expansions. He also wanted guarantees that Google wouldn't break up or shut down his company before it produced a third-generation electric car aimed at the mainstream ▶

Quoted

"We are maintaining a disciplined approach with a focus on retaining high-value customers."

Verizon Chief Financial Officer **Fran Shammo** during an April 21 earnings call. The top U.S. wireless carrier fell short of analysts' expectations for subscriber growth.

The company refused to follow price cuts by Sprint and T-Mobile. It did, however, beat profit forecasts

auto market. He insisted that Page let him run a Google-owned Tesla for eight years or until it began pumping out such a car. Page accepted the overall proposal and shook on the deal.

In the weeks that followed, Musk, Page, and Google's lawyers negotiated specific terms. There were a couple of sticking points around Musk's financial demands that complicated the talks and kept the two sides apart.

$11b

Amount Google would have had to pay to buy and repair Tesla

While the two companies were negotiating, Tesla's frenzy of sales calls began to pay off, and a lot more people started buying the Model S. With its quarter drawing to a close and two weeks-worth of cash in its coffers, Tesla began selling thousands of cars, enough to post an $11 million quarterly profit on $562 million in revenue.

Within two weeks of that announcement, the company's shares had doubled, and Tesla had repaid its $465 million loan from the U.S. Department of Energy early, with interest. Musk broke off his negotiations with Google. He no longer needed a savior.

The bottom line In 2013, Tesla asked Google to buy it, but turned around its dismal sales just in time to avoid selling.

Design

Twitter Tries to Tone Down the Chirping

- An update called Highlights edits feeds to about a dozen tweets
- It's meant to make users feel "done with Twitter, caught up for the day"

Twitter today looks pretty much like it did five years ago, a constantly updating, reverse-chronological feed of thoughts and jokes from the accounts you've chosen to follow. The company has tried numerous minor tweaks to the interface but hasn't overcome its biggest barrier to growth: Twitter requires you to spend a lot of free time to build a feed, maintain it, and just plain read all those tweets. For a casual user, a typical Twitter feed, even one that follows just a few hundred accounts, can seem cacophonous and never-ending. As the service's active user count plateaus at about 300 million, one-fifth the size of **Facebook**, the company's product team has begun trying in earnest to deal with the problem.

On April 23, Twitter planned to release a feature called Highlights, its most radical attempt so far to draw people who don't want to spend all day refreshing their feeds. Using an algorithm like the one that guides Facebook's news feed, Highlights curates—once in the morning and once in the evening—about a dozen of the tweets it deems the most interesting and packages them into a personalized digest.

Twitter's Android app will push the digest directly to the list of notifications from major apps on a user's smartphone. (Twitter says it has no timetable for an iOS version.) Tapping the notification brings up the Highlights digest, not the full Twitter feed. "We wanted to create this emotion of being done with Twitter, caught up for the day," says Todd Jackson, who heads the team that developed Highlights.

Once you swipe your way into Highlights, it doesn't quite look or feel like Twitter. The dozen or so tweets are arranged in order of supposed importance, not by time stamp. Each one is displayed on a full screen with any associated photos or videos placed above the text, flipping the usual Twitter emphasis on the 140 characters and keeping individual tweets from feeling like part of a feed. Some aren't even from people you're following, says Kevin Weil, Twitter's senior vice president for product. "The things you care about, the places, the causes, the brands, the sports teams—we're trying to do a better job of bringing that to you, rather than making you go find it," he says.

The effect is to make Twitter function more like Facebook. In fact, Mark Zuckerberg's company piloted a similar feature two years ago. Facebook Home, a digest culled from the social network's news feed, likewise pushed its occasional updates to an Android phone's notifications list. Facebook Home, a standalone app, was panned for making it more difficult to see alerts from other apps and has been downloaded fewer than 5 million times, according to Google's app store Play.

"I don't see anything yet that makes me feel like this is suddenly a must-have ubiquitous platform. There already is one. It's called Facebook"

Highlights is a significant step outside Twitter's comfort zone in pursuit of new users. Weil, who in October became the company's fifth product chief in five years, has focused on making Twitter look less intimidating. In February his team released an "instant timeline" feature that automatically builds Twitter feeds for new users who agree to give it access to their smartphone contact lists. "While you were away" notices, added in January, push a handful of the most popular tweets you missed to the top of your feed when you log in. Earlier in April, Twitter's spartan home page, which used to offer only an option to sign in to the service, added colorful category tabs such as "cute animals" and "Nascar drivers" that suggest related accounts to follow.

Weil assumed his current role after leading Twitter's ad-product team, which developed new sources of revenue faster than the product team cranked out new features for users. Twitter, set to report quarterly earnings on April 28, says Weil's efforts may lead to an uptick in user growth in the first quarter. Looking at Twitter's updates so far, it's a little early for that, says Brian Wieser, an analyst at Pivotal Research Group. "On balance, it's still what it always was," says Wieser, who hasn't seen Highlights. "I don't see anything yet that makes me feel like this is suddenly a must-have ubiquitous platform. There already is one. It's called Facebook."

Algorithms are going to become more important for Twitter's product team as it tries to push the best of each day's 500 million tweets to more people, Weil says. In the past, Chief Executive Officer Dick Costolo has fired product chiefs faster than he's made major product innovations. Weil says that's changing, and Twitter's product strategy is finally set. "I'm not going anywhere," he says. —*Sarah Frier and Brad Stone*

The bottom line Twitter's Highlights feature pushes the service more toward Facebook in an effort to boost flagging user growth.

Edited by Jeff Muskus
Bloomberg.com

COURTESY PROTECTWISE; TRON: WALT DISNEY PICTURES/PHOTOFEST

Innovation

ProtectWise

Form and function
ProtectWise is a sort of DVR for cybersecurity. With a slick look partly designed by a Hollywood effects artist, it uses cloud software to identify threats in real time and show the results in a dashboard that aims to simplify analysis and response.

Innovators Scott Chasin and Gene Stevens

Ages 44 and 40

Chief executive officer and chief technology officer of two-year-old startup ProtectWise in Denver

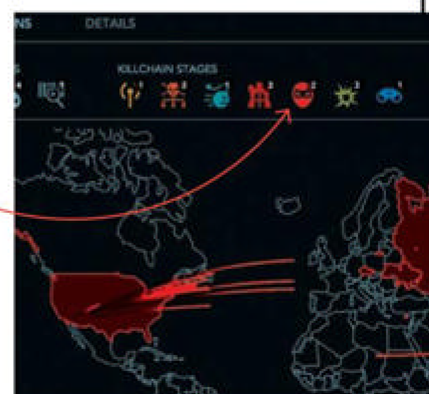
Origin Chasin and Stevens loved *Tron: Legacy*, set inside a computer network. They hired Jake Sargeant, the film's animated-graphics designer, to help create a sleeker, more intuitive visual display of network activity.

Style ProtectWise's color-coded main screen is modeled on the heads-up display of a shooter game, says Stevens.

1.

Analysis Sensors in key parts of a company's network feed data to the software platform, which condenses its threat analysis to a central display that highlights the most urgent problems.

Bad news: Someone's stealing data from the network



2.

Action Users can review their intrusion history to assess long-term security changes or shut down systems in real time to stop data theft in progress.

This is the DVR control. You can scroll backward and forward to see what happened when

Funding ProtectWise has raised $17 million from venture funds including Trinity Ventures and Crosslink Capital.

Clients Stevens says 16 corporate customers have been helping to test the software since it was launched in March, but he wouldn't name them.

Next Steps

Stevens says he's working to improve ProtectWise's search function so clients can dig faster through huge volumes of data. Even if much of the software's appeal is its look, that's not a bad thing, says Ben Shneiderman, a professor of computer science at the University of Maryland and a pioneer in information visualization. "Network security is enormously complicated," Shneiderman says. "Increasing use of visualization will help a great deal." —*Dune Lawrence*

April 27 — May 3, 2015

▶ **Seeing a big stock rally coming, U.K. money managers want in**

▶ **"We want to be ready as soon as sanctions are lifted"**

A final agreement to limit Iran's nuclear program and lift sanctions may still be months away, but foreign investors aren't waiting. London-based money managers **Charlemagne Capital** and **First Frontier Capital** are putting together funds to allow investors to buy stock in Iranian companies in advance of the rush they expect to follow a definitive pact.

While the negotiations could still fall apart, the money managers are in essence saying they'd rather risk arriving too early than miss a rally in Tehran's $110 billion equity market. Relief from sanctions could triple Iran's economic growth rate by removing barriers to the nation's oil exports and ending the isolation of its banks from the global financial system, says Dominic Bokor-Ingram, a portfolio adviser at Charlemagne. "We want to make sure our portfolio is exposed to companies that take advantage of that economic growth," he says. "We hope to have a product in the next few weeks."

Charlemagne projects that Iran's economy could grow 6 percent to 8 percent annually without the burden of sanctions, compared with an estimated 1 percent to 3 percent in 2014. **Templeton** Emerging Markets Group Chairman Mark Mobius, a longtime champion of investing in developing economies, says the "thriving" stock market in Tehran would offer many opportunities to outside investors.

U.S. and European sanctions restrict Iran's oil exports and isolate its banks. Those imposed by the United Nations bar trade in nuclear-related technology and military gear. Charlemagne and First Frontier are using partnerships with local investment companies to make it easier to access the market. First Frontier is working with **Agah Group** in Tehran to set up a fund that will hold 23 stocks and have at least $10 million in assets. The fund, aimed at professional investors and high-net-worth individuals in the U.K. and elsewhere, won't be open to U.S. investors because "they have severe limitations in dealing with the country," says Alexei Yazikov, First Frontier's head of research. The fund may invest in companies such as **Iran Khodro Industrial Group**, the country's ▶

leading vehicle maker; **Bank Mellat**; and **National Iranian Copper Industries**, according to Yazikov. "We've worked quite hard and for quite some time to figure out how to make it completely compliant," says Nicholas Banszky, chairman of First Frontier. "We had to exclude stocks that are essentially sanctioned."

Charlemagne is betting on banks, telecommunications companies, and cement makers. The company, with $2.3 billion under management in emerging markets, is working with Tehran-based **Turquoise Partners** to co-manage a $70 million fund. "Everything we do, whether it's before or after sanctions are lifted, will be sanctions-compliant," Bokor-Ingram says. "We want to be ready as soon as sanctions are lifted and not start the process then."

There are already signs of a rally on the 47-year-old Tehran Stock Exchange, where shares of 315 companies trade. The exchange's main index gained 2 percent in the first 20 days of April. The rebound follows a 17 percent slump in the 12 months through March as the talks repeatedly stalled, undermining confidence that President Hassan Rouhani could end the decade-long sanctions. Even with sanctions, the gauge jumped 300 percent in dollar terms in the five years through 2013.

Valuations on the Tehran exchange are relatively low, despite the recent rise in prices. The main index trades at about 5.5 times earnings, Agah says. That compares with a multiple of 11.2 for the MSCI Frontier Markets Index, which includes countries such as Vietnam, Kuwait, and Ecuador, data compiled by Bloomberg show.

300%

Gain in the benchmark Tehran stock index over the five years through 2013

It's far from certain that Iran and the six world powers will reach a final agreement. U.S. and Iranian officials have bickered over the framework for further discussions, and Iran's Supreme Leader Ayatollah Ali Khamenei signaled the possibility of extending the June 30 deadline specified in the provisional pact. Some U.S. lawmakers insist that Congress must review any final plan.

While other money managers in London say they have scheduled exploratory trips to Iran, many are being cautious. Any excitement about the country is "premature," Hans-Henrik Skov, a money manager who invests in frontier markets at **Coeli Asset Management**, wrote in an e-mail. With so many different interests involved, he wrote, "I honestly do not believe any money managers really have a clue what is going on."

> **"I honestly do not believe any money managers really have a clue what is going on."**
> ***—Hans-Henrik Skov, Coeli Asset Management***

Rami Sidani, the head of frontier markets at **Schroder Investment Management**, also says he's in no rush. "We are keeping a close watch," he wrote in an e-mail. "It's definitely a market that could be very interesting for us. However, we need full clarity on the sanctions to move forward."
—Maria Levitov

The bottom line With Iranian stocks up in mid-April by 2 percent, two funds want to get a jump on a rally they expect to follow a nuclear deal.

Real Estate

A Home Shortage Amid Hawaii's Building Boom

- **Hotels and high-end condos dominate the Honolulu market**
- **"Maybe one day I can afford one of the affordable rentals"**

Hinaleimoana Wong-Kalu has crossed swords with developers on behalf of native Hawaiians for most of her life. For the past eight years she's protected the souls of departed ancestors as a member of the Oahu Island Burial Council, a state board overseeing care and protection of native Hawaiian burial grounds. This year she took a job as a consultant for Ward Village, a $10 billion, 4,000-residence waterfront project. She's advising the developer, **Howard Hughes Corp.**, on the proper treatment of the unearthed human remains and sacred sites that are often found as construction gets under way. "I negotiated a modest contract so I can pay my bills," Wong-Kalu says. "Maybe one day I can afford one of the affordable rentals in the development."

Wong-Kalu

Honolulu's waterfront has become a forest of construction cranes as builders erect high-rise condominiums, shopping malls, and hotels. While the new luxury buildings are refreshing the aging core of the city, affordable housing is becoming increasingly scarce.

The median home value in Honolulu was $605,300 last year, behind only San Jose, Calif., and San Francisco among the 100 largest U.S. metro areas, according to Zillow Group. With a population of almost 1 million, Honolulu has a shortage of 24,000 dwellings, including 18,000 units for families earning below the metro area's median income, according to a September report for the city housing office.

Permits were issued for $3.3 billion in construction projects in the state last year, 12 percent below the 2006 high, according to the University of Hawaii Economic Research Organization. Residential permits accounted for $376 million of the total on Oahu, a decline of 41 percent from the previous year. Single-family home permits are at their lowest since 1982, says Carl Bonham, executive director of the university research center. Honolulu officials are weighing such measures as requiring builders to reserve as much as 30 percent of residential projects for affordable housing, encouraging denser high-rises along a new passenger rail line that's expected to open in 2018, and allowing owners of single-family homes to add rental units to their properties.

At Ward Village, about 20 percent of the planned 4,000 units will be reserved for residents who earn less than 80 percent of the median household income for Honolulu, which was $95,800 for a family of four last year. To keep up with population growth, Honolulu needs about 4,000 more homes a year, according to Nicholas Vanderboom, Howard Hughes's senior vice president for development. "We're trying to be part of the solution," he says. "But even if we build out our entire master plan, we're one year's worth of the supply needed."

Lawsuits and a lengthy approval process have delayed development of the two largest single-family home communities on Oahu, the University of Hawaii's Bonham says:

Surf's Up

The value of construction permits reached

$3.3b

last year in Hawaii

Construction costs jumped

22%

in the two years through December, compared with 8 percent on the mainland

Ala Moana Beach, Honolulu

Hoopili, an 11,750-residence project by **D.R. Horton**, and Koa Ridge, a 3,500-home development by **Castle & Cooke**. "Developing in Hawaii is not for the faint of heart," says Jason Grosfeld, head of **Irongate**, developer of the Ritz-Carlton Residences in Waikiki. "There are some unique challenges."

One of those challenges: human remains. Burial sites are scattered throughout the Waikiki and Kaka'ako districts, near ocean fishing grounds where native Hawaiians settled and interred their dead, according to Hinano Rodrigues, history and culture branch chief for Hawaii's historic preservation division. A state law that took effect in 1990, after developers of a Maui resort unearthed about 1,100 natives' skeletal remains, requires an archaeological inventory survey for large projects. Builders must halt work if they uncover remains until the skeletons can be properly protected or relocated.

Ward Village is rising amid a warren of strip malls, auto repair shops, and Quonset huts. The area often smells of leaking sewers, according to Wong-Kalu, the consultant. She agreed to work with Howard Hughes because the developer has an "exemplary record" of cooperating with native descendants. "If this were virgin land elsewhere on the island, untouched and pristine, I'd probably have a different attitude toward the development," she says. "However, this is in the urban core and a place that was in sore need of revitalization." *—John Gittelsohn and Nadja Brandt*

The bottom line With a median home value of $605,300, Honolulu needs 18,000 additional affordable homes.

Commodities

Coffee Producers Have A K-Cup Problem

- ▶ Those efficient little pods are damping demand
- ▶ "The coffee market has lost its best consumer: the kitchen sink"

Single-serve brewing machines are altering the way coffee is consumed, and not in a good way for the industry. For coffee producers, the problem with single-serve machines is their efficiency. Almost every brand, from **Folgers** to **Dunkin' Donuts**, sells coffee for the machines in disposable 2-inch-by-2-inch plastic pods that yield just one cup. That means fewer people brew big pots of coffee and dump what they don't drink, hurting sales at a time when ample inventories of the commodity have sent prices tumbling. "The coffee market has lost its best consumer: the kitchen sink," says Hernando de la Roche, a senior vice president at INTL FCStone, a broker in Miami. "Roasters are telling us that single-cup coffee has been reducing demand."

About 27 percent of consumers now own single-serve brewers, the National Coffee Association of USA estimates, based on survey data. An additional 12 percent of respondents say they have "definite" or "probable" plans to buy the machines. **Keurig Green Mountain** estimates 20 million of its brewers are in use across the U.S.

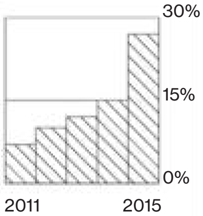
While Americans still drink more coffee than any beverage except water, consumption growth in the 12 months through September will probably slow to 1.8 percent in the U.S. and Canada, down from a 4 percent gain a year earlier, says Kona Haque, head of commodities research at ED&F Man, a commodities firm in London. "There has been volume erosion in the overall coffee category," John Boyle, chief operating officer at **Massimo Zanetti Beverage USA**, which makes Hills Bros.,

FROM LEFT: COURTESY HINALEIMOANA WONG-KALU; PHIL UHL

◀ Chock full o'Nuts, and Kauai coffees, wrote in an e-mail. "The development of the single-serve business over the past years has had a definite impact."

Sales at supermarkets and other retail outlets, excluding restaurants and coffeehouses, fell 1.4 percent in the 52 weeks ended March 22, IRI estimates. Single-serve was the only category that grew: Every other category, from ground and instant coffees to whole beans, saw declines. While single-cup pods account for 12 percent of the volume of coffee sold by U.S. retailers, they represent 36 percent of total revenue, according to data from research firm IRI. That's because they cost more per pound than beans or grounds. Total coffee sales last year were $52 billion, compared with $49 billion in 2013.

Single-cup brewer ownership



The slowdown in the U.S., which consumes more coffee than any other country, comes as rains are improving the production outlook in Brazil, the largest grower and exporter. Brazil has had two seasons of subpar production, in part because of an unprecedented drought in 2014. The price of coffee has tumbled 13 percent this year through April 22 on the ICE Futures U.S. exchange. **Volcafe**, the coffee unit of ED&F Man, said in February that Brazil will boost output this year to 49.5 million bags from 47 million in 2014. A bag weighs 60 kilograms, or 132 pounds.

There hasn't been such a big shift in coffee habits since **Starbucks** began its expansion almost three decades ago, according to Ric Rhinehart, executive director of the Specialty Coffee Association of America. Before Starbucks persuaded people to spend almost $5 on a caramel macchiato, he says, the biggest influence on coffee demand was the **Mr. Coffee** brewer that Joe DiMaggio pitched in TV commercials in the 1970s. Single-serve has become the next big thing, and it "really took off in the past five years with Keurig," he says. "I expect the category to continue growing, although at a slower pace."
—Luzi-Ann Javier and Marvin G. Perez

The bottom line Sales growth is slowing in the $52 billion U.S. coffee market in part because less is going down the drain.

Funds

These Investors Are Out $900 Million

▶ BlackRock's flagship China ETF falls behind its benchmark index

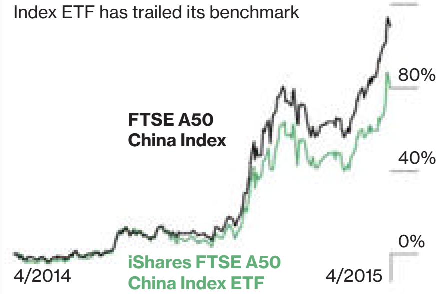
▶ "It's not providing what it advertised to do"

Most stock investors would be thrilled to almost double their money in a year. For those who bought **BlackRock**'s flagship ETF for mainland Chinese stocks, it's akin to getting shortchanged.

The iShares FTSE A50 China Index ETF, an exchange-traded fund with $9.1 billion in assets, is designed to track

Performance Gap

As the value of its derivatives fall, BlackRock's iShares FTSE A50 China Index ETF has trailed its benchmark



DATA COMPILED BY BLOOMBERG

returns of the 50 largest companies traded in Shanghai and Shenzhen. Over the 12 months through April 20, the fund had a total return of just over 80 percent, compared with 109 percent for its benchmark, the FTSE China A50 Index. The cost to investors? More than $900 million in unrealized gains, according to data compiled by Bloomberg. "It's not providing what it advertised to do," says Ajay Mehra, head of equities at **Salient Partners**, which owns shares of the fund.

BlackRock created its ETF in 2004, when mainland stocks were mostly off-limits to foreigners. The fund invested in derivatives called China A-share access products, or CAAPs, which were designed to mimic the performance of Chinese stocks. Its assets ballooned, helping the fund to become the largest of its kind.

For shareholders, things started to unravel in November when China announced it would link the Shanghai stock exchange to Hong Kong's and allow 23.5 billion yuan ($3.8 billion) of cross-border trades each day. Increased

Slow Justice

Navinder Singh Sarao

The house Sarao shares with his parents near Heathrow Airport

Arrested in London on **April 21**, Sarao is accused of market manipulation in connection with the flash crash of **May, 6, 2010**, when the Dow Jones industrial average plunged 1,000 points in minutes before recovering. The arrest came

1,808

days after the event. Sarao is fighting extradition. His lawyer declined comment. How swift were other cases?

Jérôme Kerviel

Kerviel lost $7 billion from **late 2006 through mid-January 2008** while trading at Société Générale. Indicted on **Jan. 28, 2008**, he served five months in jail.

Martha Stewart

Stewart avoided an estimated $46,000 loss by selling ImClone Systems stock on a tip from her broker on **Dec. 27, 2001**. She was indicted on **June 4, 2003**. A jury found her guilty of conspiracy and making false statements.

Raj Rajaratnam

Rajaratnam was charged with conspiracy and securities fraud in connection with insider trading that began in **2003** at his hedge fund, Galleon Group. He was indicted in **December 2009** and convicted in May 2011.

GETTY IMAGES (4); COFFEE DATA: NATIONAL COFFEE ASSOCIATION

access to mainland stocks has sapped demand for CAAPs, causing funds that use them to underperform. While the iShares A50 ETF is buying more shares directly, derivatives still make up about 81 percent of its portfolio.

Investors have pulled $3.8 billion from the BlackRock fund this year, including $462 million on April 20, the biggest one-day outflow since July 2009. The fund now sells for 8.7 percent less than the value of the securities it holds. “We have observed that the opening of the Shanghai-Hong Kong stock connect has contributed to pricing dislocations across financial instruments connected with accessing China, including our A50 ETF,” Melissa Garville, a spokeswoman for BlackRock, wrote in an e-mail.

Other derivatives-based China ETFs are suffering as well. The eight-year-old $1.1 billion WISE-CSI 300 China Tracker traded at an 11.1 percent discount to its net asset value on April 20. And the $926 million closed-end **Morgan Stanley** China A Share Fund, created in 2006, is trading at a discount of almost 20 percent.

Some investors are sticking with the iShares ETF because it’s easier to buy and sell. The average 30-day trading volume of iShares A50 ETFs is more than all but three stocks in the 50-member Hang Seng index. “For people who don’t want to have liquidity issues, this might be the place to go,” says Walter Price, a portfolio manager at Allianz Global Investors.

As the Chinese market opens up, the high expenses of derivatives-based funds may be enough to discourage some people. The iShares A50 ETF charges investors 1.39 percent a year for BlackRock’s management fee as well as trustee, custodian, and administration costs. That’s higher than 97 percent of ETFs worldwide, data compiled by Bloomberg show. “Paying extra as a fee for access made sense” when you couldn’t get into the market, says Jonathan Masse, chief investment officer of San Francisco-based WaveFront Capital Management, which manages $10 million in emerging-markets stocks. “People don’t need derivative-based funds anymore.” —*Elena Popina and Boris Korby*

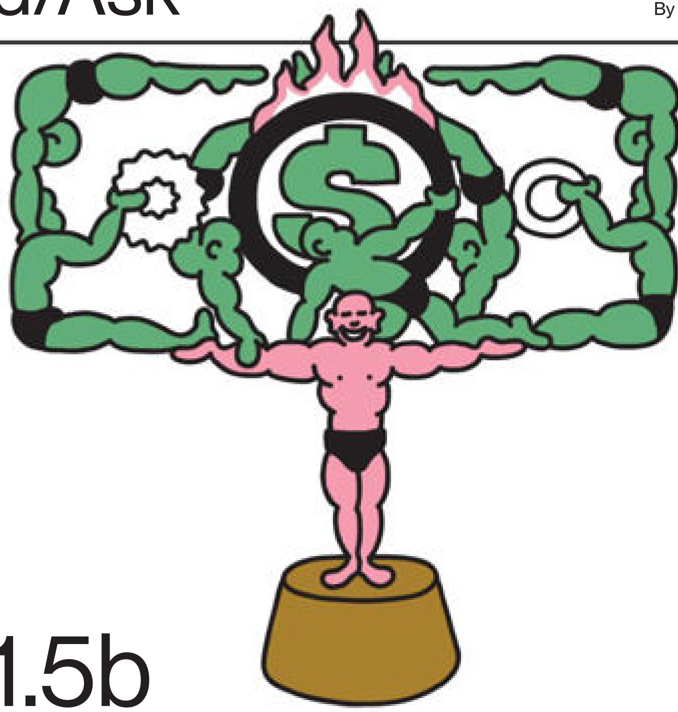
The bottom line The derivatives-based iShares FTSE A50 ETF lagged behind its benchmark by 29 percentage points in the past year.

Edited by Eric Gelman
Bloomberg.com

BID/ASK ILLUSTRATIONS BY OSCAR BOLTON GREEN

Bid/Ask

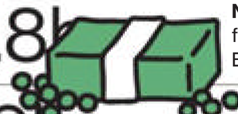
By Kyle Stock



$1.5b

Cirque du Soleil is now performing for private equity. Once a ragtag posse of street performers, the high-flying troupe was snapped up by TPG Capital and Fosun Group, a Chinese company owned by billionaire Guo Guangchang. The deal will help the circus expand in China, where it’s struggled to make headway. Cirque du Soleil founder Guy Laliberté, formerly a fire-breather, retains a 10 percent stake.

$40b — **Teva bids for Mylan.** The Israeli pharmaceutical giant is keen on Mylan’s portfolio of generic drugs as patents expire on Copaxone, its multiple sclerosis treatment.



$2.8b — **Nomad Holdings buys Iglo Foods.** Iglo, Europe’s biggest frozen food vendor, with an empire that includes the Birds Eye brand, is being sold by private equity group Permira.

$1.9b — **Raytheon stocks up on cybersecurity.** The arms maker is acquiring Websense, which protects the networks of 20,000 companies.

$730m — **The Atlanta Hawks net a bundle.** Billionaire Tony Ressler, a co-founder of Ares Management, led a group that won the bidding for the NBA franchise.

$70m — **BlackBerry purchases WatchDox.** The company has a research lab in Israel where it makes software to help companies control how employees handle mobile files.

$22m — **A 100-carat diamond shines at auction.** Sotheby’s called the almost perfect stone, mined in South Africa, a “miracle of nature.”

$21m — **Goldman Sachs takes a tech stake.** The investment bank bought into Perseus Telecom, which provides telecommunications services to financial firms.


THERE'S A MYTH OUT THERE THAT YOU CAN'T DO IT ALL.
THE ALL-NEW RAM PROMASTER® CITY
ONE COMMERCIAL VAN, TWO CONFIGURATIONS
As either a cargo van or five-passenger wagon, it's the best way to do business.
THE BIG PICTURE FITS IN BACK
With best-in-class payload, the ProMaster City is geared to tackle everything on your list without an ounce of hesitation. Best-in-class cargo capacity means less time spent reloading and more time spent getting things done.
THE POWER TO INTIMIDATE
Ram's 2.4L Tigershark® gas engine generates best-in-class 178 horsepower and 174 LB-FT torque. Combine that muscle with an exclusive 9-speed transmission, and you get an unsurpassed standard 29 MPG HWY. It's a smarter and more efficient engine: It operates longer at lower RPMs, and the unique clutch technology results in smoother shifts and a smoother ride. Acceleration is also improved–0 to 30 takes 3.7 seconds.
CURB APPEAL
The 60/40-split rear doors are designed with deliveries in mind. The driver's-side door opens first, allowing you maximum access to your cargo and a clear path to the curb without the passenger rear-door obstruction seen on other vans.
BEST-IN-CLASS PAYLOAD 1,883 LB
5-YEAR 100,000 MI. LIMITED POWERTRAIN WARRANTY
BEST-IN-CLASS CARGO ROOM 131.7 CU-FT
RAM COMMERCIAL
RAMTRUCKS.COM/COMMERCIAL

Smells Like School Spirit

"Garett the Great"

▶ **Public schools are calling in the pros to raise money**

▶ **"Everybody needs fundraising. It's a necessary evil"**

Garett Chatham waits outside a classroom at Sonoran Sky Elementary School dressed from headband to sneakers in the orange and blue running gear of school fundraising company **Apex Fun Run**. On a cue from the teacher, the 32-year-old morphs into Garett the Great, a combination motivational speaker, gym coach, and sales-team leader. For the next eight minutes he guides the sixth-graders through an exercise on the importance of saying thanks. And, because he's also there to raise money, Garett the Great offers them incentives to hit classwide targets on pledges for the school's upcoming minimarathon. One prize up for grabs: a chance to pie Garett. "You are doing an awesome job supporting your school," he says.

Strained school budgets and overworked parents have opened the door for professional fundraising outfits like Phoenix-based Apex and **Booster Enterprises**, of Alpharetta, Ga. To the relief of families, there's no cookie dough or holiday wrapping paper to peddle to friends and relatives. The companies' core product is a so-called fun run, in which kids run laps around a course. Teams of three descend on an elementary school for two-week assignments, handling every aspect of the event—from hanging banners advertising the fun run to instructing parents on how to use social media to solicit pledges and handing out prizes.

Costs vary by school, and both companies offer various levels of service, but for an all-hands fundraiser, Apex and Booster receive 40 percent or more of total donations. On average, an Apex fun run nets a school about $23,000, says co-owner and Vice President for Franchise Development Jeremy Barnhart, with some bringing in more than $70,000. Apex expects to raise as much as $10 million for schools this school year; Booster, which had a decade's head start on its rival, is targeting $30 million, according to Brett Trapp, executive vice president for client experience. With per-student funding for public schools in at least 30 states still below 2008 levels, according to the Center on Budget and Policy Priorities, there's plenty of demand. "Everybody needs fundraising," says Barnhart. "It's a necessary evil." ▶

Apex was founded in 2011 by Scott Donnell after he saw his girlfriend, now wife, Amy, spend $500 of her own money on supplies for her first-grade classroom. Barnhart, who joined the company in 2012 after it staged a fundraiser at his kid's school, came up with the idea of franchising the concept; all Apex outlets are independently owned. "The beauty of our program," he says, "is that it's a local business owner with a local team, and they're part of that community."

Booster has a payroll of about 400 nationwide. "We work with the two things that are most important to people: their kids and their money," says Trapp. "We don't feel that we could have the quality program that we have under a franchise model."

> **"We'd like to serve a million students within the next three years and 2 million within the next five."**
> **—*Jeremy Barnhart, Apex***

Both are growing fast. Booster will work with about 1,300 schools in 32 states this school year, according to Trapp. Apex, which since early October has seen its nationwide franchise count climb from 35 to 56, will stage fun runs at about 400 schools in 16 states. Says Barnhart: "We'd like to serve a million students within the next three years and 2 million within the next five."

Over 10 days in early October, Apex's Chatham and his team of "athletes," as the company dubs the mostly twentysomething college grads it employs, become high-fiving fixtures at Sonoran Sky Elementary in Scottsdale, Ariz. Barnhart says the typical Apex team member is a recent college grad who wants to be a teacher or a coach.

The first day is spent with teachers, mapping out the event and going over Apex's "curriculum." (As an incentive to get educators involved, 10 percent of what each class raises goes back to it.) On Day 2 there's a pep rally to get the kids pumped up. For the next six days, the athletes go class to class delivering six- to eight-minute lessons titled "Find Your Strengths" and "Be Brave." It all leads up to the fun run, where students complete up to 36 laps around a 1/16-mile course.

Not everyone is a fan. Most complaints center on the size of the companies' cut. Some parents resent the hard-driving salesmanship. Leila Holmann's kindergartner, Gabriel, came home from his Atlanta school one day in 2012 fixated on getting enough pledges to win an electric scooter, Booster's top prize that year. Booster's "reps were using standard sales tactics, and my son was falling for all of them," she says. Holmann and her husband started a campaign called No to Fundraising in the Classroom but drew little support. She says that while some parents shared their concerns, others shrugged them off, saying it was all in the name of a good cause.

Still, one of the reasons the companies are growing fast is that converts—teachers, administrators, parents, and especially parent-teacher organizations—are spreading the word. Donations for the October fun run at Sonoran Sky—the third Apex has organized at the school—totaled $79,159, according to Joe Muth, treasurer of the school's PTO, which signed the contract with Apex: $41,110 for the PTO, $38,049 for Apex.

Muth and the rest of the PTO now have concerns about next year's budget; the school district will no longer provide money for technology because of further state cuts. That means the Sonoran Sky PTO will need to set aside $20,000 to $30,000 of its budget to replace or repair laptops. The school has signed on with Apex for another year. Muth says that while some parents initially grumbled about turning over some of their hard-earned cash to a professional fundraising company, there were "zero" complaints last year. "It's become part of our culture," he says. —*David Purcell*

The bottom line Apex Fun Run and Booster raise tens of thousands of dollars for public schools and take at least a 40 percent cut.

Trade

Small Business Finds Its Voice on Free Trade

▶ Companies are lining up in support of Obama's agenda

▶ "It's very hard to find effective mobilizations of small business"

Ross Bernard started **American Nettings & Fabric** in the early 1980s and now employs six people in Ferndale, a small town in Washington state that's a 15-minute drive from the Canadian border. Bernard is a Canadian citizen, but he set up his business in the U.S. so he could exploit its 14 free-trade agreements. He expects 80 percent of his $3 million in sales this year to go abroad, much of it to Latin American fruit growers who use his plastic netting to protect their produce from hungry birds. American Nettings' only other office is in Peru, which in 2006 inked an agreement with the U.S. that scrapped the 15 percent tariff the South American country once levied on U.S. imports. Says Bernard: "Our customers follow these free-trade deals."

33.6%

Conquering New Markets

Annual exports by small and midsize U.S. companies (those with fewer than 500 employees)

DATA: U.S. CENSUS BUREAU

Multinationals including **Boeing**, **Caterpillar**, and **Microsoft** have long dominated the ranks of American businesses lobbying for freer trade. This year they're being joined by people like Bernard. Since the recession, small businesses have increasingly sought customers overseas. In 2006 small and midsize exporters accounted for 28.9 percent of sales by U.S. companies abroad; in 2013 that figure was 33.6 percent. These companies are making their voices heard in the debate over trade policy that kicked off in earnest on April 16, when a group of Republican and Democratic lawmakers introduced a bill to grant President Obama authority to negotiate a trade and investment treaty encompassing a dozen Asia-Pacific nations.

Bernard is urging his congressional representative, Suzan DelBene, a Democrat, to vote for the fast-track bill. The National Small Business Association, a lobbying group in Washington, has also come out in favor of the legislation.

"It's very hard to find effective mobilizations of small business on anything, but particularly on trade," says Susan Schwab, who was U.S. trade representative from 2006 to 2009. She recalls that as the debate on trade became more polarized in the 1990s, opponents argued that the benefits of deals such ▶

as the North American Free Trade Agreement accrued to big business, while smaller companies were at risk of being engulfed by cheap imports.

Some American multinationals are encouraging their suppliers to speak up. **Cummins**, a maker of powerful engines, leads a coalition of businesses pushing for more trade pacts. Among its members is **Ice Industries**, a Sylvania (Ohio) supplier of metal parts to the auto and appliance industries with 450 workers in the U.S. Its founder and chief executive officer traveled to Washington in March to lobby members of Congress to give Obama trade negotiating authority. In a March 4 editorial published in the political newspaper *The Hill*, Howard Ice argued, "Opponents claim that big-name corporations are pushing new trade deals that will benefit them but hurt U.S. workers. The problem with that talking point: It's wrong."

Online marketplaces such as **EBay** and **Etsy** have also helped knit diverse small businesses into a more coherent political voice. EBay brought a group of sellers to Washington from April 22-23 to lobby their members of Congress in support of the trade bill. "The anecdotes tell us that global sales have been key to these businesses and their growth," says Caitlin Brosseau, a lobbyist for the company. About 95 percent of U.S. merchants on EBay sell abroad, according to Brosseau. In Jan. 29 testimony to Congress, U.S. Trade Representative Michael Froman said merchants on Etsy stand to benefit from many concessions the U.S. is seeking from Asian nations in negotiations for the Trans-Pacific Partnership. Althea Erickson, Etsy's public policy director, said in an e-mail that "many of our sellers operate global businesses, but they encounter significant barriers when shipping goods across borders."

"The anecdotes tell us that global sales have been key to these businesses and their growth."
—Caitlin Brosseau, lobbyist for EBay

Obama faces an uphill battle to win the authority from Congress to conclude new trade deals, with opponents arguing that previous ones let U.S. businesses move jobs overseas. That hasn't been Bernard's experience, though. Just as growers south of the Equator wrap up their harvest, his U.S. customers need their nets. Without the free-trade deals, business would be dead for half the year. Says Bernard: "We now work in two growing seasons, here and in Latin America."—*Carter Dougherty and Michelle Jamrisko*

The bottom line Small businesses have a growing stake in the trade debate, thanks to a big jump in their exports since 2007.

Credit

Lending Club Wants to Broaden Its Membership

▶ Deals with Google and Alibaba deliver small business customers

▶ "We don't have physical assets as collateral"

Allen & Co.'s annual conference in Sun Valley, Idaho, is a sought-after ticket among media moguls, tech executives, and investors because it gives them a chance to mingle and cut deals. When **Lending Club** Chief Executive Officer Renaud Laplanche got his first invite last year, he used the opportunity to pitch people like **Google** co-founder and CEO Larry Page on an idea for how to expand: The peer-to-peer lender had already lowered borrowing costs for consumers by streamlining the loan application process and matching loan applicants with investors. Why not use the same approach to make small business lending cheaper?

Founded in 2006, Lending Club helped arrange more than $4 billion in loans last year, mostly consumer installment loans of up to $35,000. At the beginning, the money it distributed came from individuals, who bought the debt in $25 increments as an investment; last year, 28 percent came from institutions including community banks and money managers.

To satisfy their appetite for high-yielding investments, Laplanche has been trying to diversify. Since raising $1 billion in an initial public offering in December, Lending Club has announced partnerships with two big technology companies. It will help Google extend up to $600,000 in credit to smaller companies that sell its applications, such as Gmail and Docs, that are tailored for business uses. Under an exclusive arrangement with **Alibaba Group**, U.S. businesses that want to buy electronics, clothing, and other items in bulk from China through the e-commerce marketplace can apply for Lending Club loans of up to $300,000. In the Alibaba deal, the most creditworthy applicants can get funds for 0.5 percent interest a month. "Their rate is very competitive," says Michael Lee, Alibaba.com's global marketing and business development director.

Lending Club keeps costs low by automating the underwriting process. It uses algorithms to vet the applications borrowers fill out online and decide what terms to offer. Data from Lending Club's tech company partners help it do a better job of underwriting small business loans, says Laplanche.

The Google partnership adds a new twist. The search company, which is one of Lending Club's early investors, is using its own money to make loans to its vendors through Laplanche's firm, which is akin to an automaker helping its dealers buy cars to resell. Allen Falcon, the CEO of Cumulus Global, recently got financing through the program to hire more sales staff. His Westborough (Mass.) company helps small businesses, government agencies, and schools adopt Google's cloud-based software. "We don't have physical assets as collateral," says Falcon, noting that his office furniture was purchased secondhand.

Lending Club is entering a crowded market. Commercial lender **CIT Group** last year bought Direct Capital, a two-decade-old company that provides loans to buy equipment or purchase inventory. Other online lenders–including **OnDeck Capital** and **Funding Circle**–are targeting small businesses. "Any money going into the small business arena is going into a more worked-over, more competitive environment," says Henry Coffey Jr., an analyst with Sterne Agee Group. "That doesn't mean you can't work the right channels," he says, "but it's more challenging." —*Noah Buhayar*

The bottom line Lending Club has joined forces with Google and Alibaba to extend credit to technology vendors and small importers.

ILLUSTRATION BY 731

Small to Big

Minute Key

Manually copied keys can fail when it comes to opening locks and as business propositions, says Randall Fagundo. "Retailers tell me it's a little-or-no-profit business because of the return rates," he says—10 percent to 15 percent of the keys don't work. Minute Key, where Fagundo is chief executive officer, takes people out of the key-cutting process with a machine created by brothers Ari and Dani Freeman in 2008. Customers put a key into the machine, which cuts a copy and then dispenses it. Fagundo, co-founder of American Coin Merchandising, a maker of amusement vending machines bought by Coinstar for $235 million in 2004, was hired in 2010. His relationships with retailers such as BJ's Wholesale Club, Safeway, and Wal-Mart Stores helped persuade the chains to install Minute Key machines. A return rate of about 0.4 percent has kept them there. "That makes the retailers very happy," he says.
——*As told to Dimitra Kessenides*

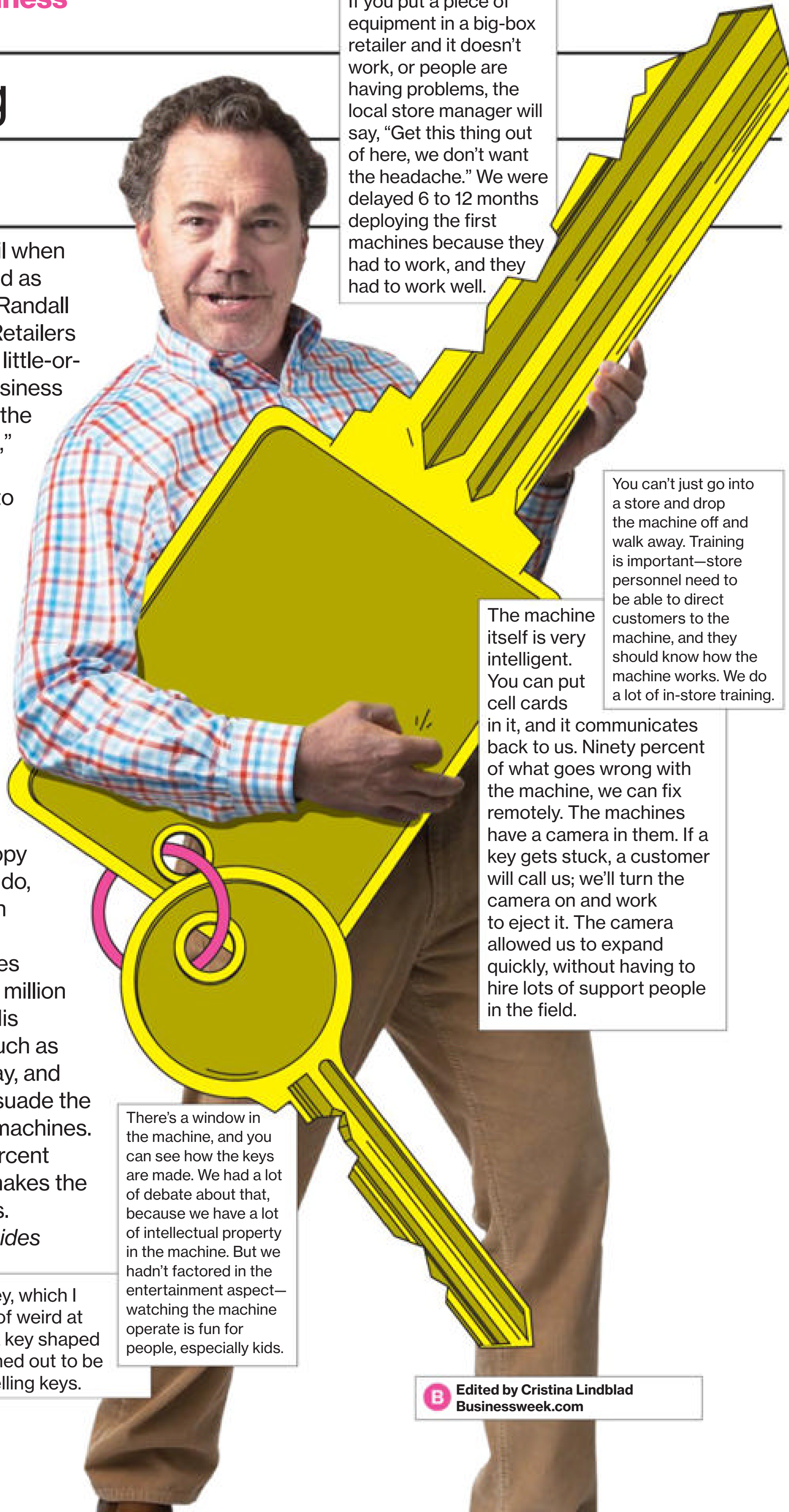
Founded
2010

Location
Boulder, Colo.

Employees
99 full-time

Total # of machines (U.S. & Canada)
3,000

Revenue	
2015 est.	>$35m
2014	$23.3m
2013	$15.8m
2012	$11.2m
2011	$1.4m
2010	$107k



If you put a piece of equipment in a big-box retailer and it doesn't work, or people are having problems, the local store manager will say, "Get this thing out of here, we don't want the headache." We were delayed 6 to 12 months deploying the first machines because they had to work, and they had to work well.

You can't just go into a store and drop the machine off and walk away. Training is important—store personnel need to be able to direct customers to the machine, and they should know how the machine works. We do a lot of in-store training.

The machine itself is very intelligent. You can put cell cards in it, and it communicates back to us. Ninety percent of what goes wrong with the machine, we can fix remotely. The machines have a camera in them. If a key gets stuck, a customer will call us; we'll turn the camera on and work to eject it. The camera allowed us to expand quickly, without having to hire lots of support people in the field.

There's a window in the machine, and you can see how the keys are made. We had a lot of debate about that, because we have a lot of intellectual property in the machine. But we hadn't factored in the entertainment aspect—watching the machine operate is fun for people, especially kids.

We made a dog key, which I thought was kind of weird at first—who wants a key shaped like a dog? It's turned out to be one of our best-selling keys.

Edited by Cristina Lindblad
Businessweek.com

PHOTOGRAPH BY ZAK KREVITT AND THOMAS MCCARTY FOR BLOOMBERG BUSINESSWEEK. ILLUSTRATION BY 731

The People's Republic of Cruiseland

The cruise industry is coming to China. Tai chi on the lido deck, anyone?

By Christopher Beam

Photographs by Ka Xiaoxi

Aboard the Italian-themed cruise ship *Costa Atlantica*, two days' sail from the coast of China, at a special dinner for high-paying passengers, head chef Daniel Martinez began by explaining the concept of bread. "The bread, for us," he said, "is like for Asian people, the rice." The eight Chinese guests at our table listened attentively as a crew member translated into Mandarin. Diners at other, less premium tables leaned in to hear the speech. Waiters brought baskets containing four fresh-baked masterpieces, including a Neapolitan specialty with cheese and bits of ham. *"Buon appetito!"* said Martinez, and the phrase echoed tentatively around the table.

My neighbor, a silver-maned 65-year-old from Shaanxi province named Li Chenggang, barely touched his bread. Nor was he fond of the pan-fried marinated sesame shrimps, the mascarpone cheese mousse in cold tomato soup, the linguine pasta with lobster sauce, the sambal codfish, the glazed pork belly, or the dark chocolate cake with hazelnut ice cream. "I'm not used to eating Western food," he said. When Martinez explained the science behind wine pairings, the translator stumbling on the Chinese word for "tannins," Li left his glass unsipped. I asked what he thought of the meal. "To be honest, it's awful," he said, adding that he preferred *biang biang* noodles, a simple Shaanxi dish.

As with most of the 2,635 passengers on the ship—98 percent of whom were from China—it was Li's first time taking a cruise. A self-declared workaholic, he spent his career at a successful architecture firm in Shaanxi province. Wanting a treat, he'd signed up himself and his grandniece Lin Ruijuan, a medical student, for one of the cruise's most expensive packages, a $4,000 suite with a balcony and a never-ending supply of fruit plates. So far, he wasn't impressed. The service was "cold," he said, and there wasn't enough Chinese food. His main complaint: The special treatment he was receiving wasn't special enough. "Money speaks for itself," Li told me. "I have money."

So do hundreds of millions of Chinese like him. And if the global cruise industry doesn't yet know how to make Li happy, it's doing everything in its power to learn. As the markets in the U.S. and Canada approach saturation, the heavyweights of luxury cruising, particularly Carnival and Royal Caribbean Cruises, have been sailing east. Costa Crociere, which is owned by Carnival, was the first company to enter China, in 2006, followed by Royal Caribbean in 2007 and Princess Cruises, another Carnival brand, in 2014. Now the companies are engaged in an arms race of pampering-at-sea. In March, Costa launched the first around-the-world cruise from Shanghai. Carnival recently signed a memorandum of understanding with China's largest shipbuilder to explore creating a new Chinese cruise line. Royal Caribbean, meanwhile, decided it's going to need a bigger boat: In June the company will bring to Shanghai its newest ship, the theme-park-on-water *Quantum of the Seas*, to travel year-round, followed in 2016 by its 167,800-ton "little sister," *Ovation of the Seas*, sailing from Tianjin.

The cruise business in China is still small. In 2014 about 700,000 Chinese travelers cruised, compared with 10 million Americans and more than 6 million Europeans. But the numbers are climbing rapidly—an increase of 79 percent from 2012 to 2014—and the ceiling isn't yet visible. In the U.S. and Australia, about 3.5 percent of the population cruises each year; the proportion in China is less than one-sixtieth of that. Some forecasters estimate that China will be the No. 2 market by 2017—and that it could eventually replace the U.S. as the largest in the world.

Local governments have already built cruise terminals in Sanya, Shanghai, Tianjin, and Xiamen, with more on the way in at least four other coastal cities. Cruise companies are bringing ships to China as fast as the ports can squeeze them in. But the hardware is the easy part. The software—the onboard experience of the Chinese customer—is still in beta. Localization itself is nothing new; brands from KFC to Oreo as well as Hollywood studios have tailored their products to the Chinese market, with varying levels of success. For cruise companies, it's

PHOTOGRAPH ILLUSTRATION BY CREDIT TK

more complicated than hiring a Chinese celebrity spokesperson or throwing in a green tea flavor. They must rethink the entire cruise experience, from food to décor to how a rapidly capitalizing society thinks about class and luxury.

In the U.S. and Europe, cruising evokes a ready set of images: retirees, Hawaiian shirts, piña coladas, the Macarena, Croakies. Since *The Love Boat* premiered in 1977, cruises have become floating symbols of the leisure-industrial complex. They represent the apotheosis of the American dream or, in the eyes of literary depressives such as David Foster Wallace and Jonathan Franzen, its ultimate emptiness. Most Chinese, meanwhile, have only a vague notion of cruising, if they've heard the term at all. The first drop-down menu on the Chinese website for Princess Cruises asks, "What Is a Cruise?" The country is, in the words of Carnival Chief Executive Officer Arnold Donald, "a blank sheet of paper," with a rising middle class whose consumption habits are still up for grabs. Then again, cruise companies have to explain to customers not just what differentiates their brand but why they should spend a week on a boat in the first place.

To find out how the Chinese cruise, I signed up for a six-day voyage with Costa over Chinese New Year in February, departing from Shanghai with stops in Japan and South Korea. The promotional brochure was a jumble: a pristine blue ocean seen through a porthole; the elegant actress Gao Yuanyuan, holding a masquerade mask and casting a sultry look; the popular Chinese cartoon characters Pleasant Goat and Big Big Wolf dressed up as sailors; the logo for the cruise's theme, "Carnival of Venice"; and a pun on the Mandarin words for "cruise" and "to enjoy a trip," which can also mean, unsettlingly, "have a good swim." I looked out my apartment window at the pitiless concrete tundra of Beijing in winter. It sounded perfect.

Rain poured as the taxi approached the Wusongkou International Cruise Terminal in north Shanghai. Through the mist, I could just make out the silhouette of a ship. Nearby, a large tent served as a holding pen for the thousands of travelers getting ready to board. "It's like a supermarket," said one woman as we passed through the vertical plastic flaps that served as a door. Families jostled past with enormous DayGlo roller bags. A small girl in a flower-print jacket was screaming. Despite the mayhem, I found Ka, my photographer, a compact Shanghai hipster, fashionably appointed in a wool vest and round glasses. "Too many people," he said. "Too loud." In China, that's saying something.

Lining the periphery of the tent were more than 50 tour guides, each responsible for a few dozen passengers. Per Chinese law, travelers can't book an international cruise directly but must go through a Chinese tour company. We spotted our guide, Yi Hua of China Youth Travel Service, at Table 5. She wore a neon yellow vest, had red streaks in her hair, and exuded patience amid the chaos. She checked our names off a list—guests in our group hailed from all over the country, including Chongqing, Guizhou, Lanzhou, Nanjing, Shaanxi, Shenzhen—and gave us each a lanyard and a "Costa Card," the main purpose of which was to make buying things as easy as possible.

We dropped our luggage and lined up to board. Outside food was forbidden on the ship, so guests gathered in a small cafe area to scarf down one last bowl of instant noodles. Just beyond customs, an electronic bullhorn on a chair looped incessantly. "Welcome to the duty-free store!" it barked. "When you come back to China, you can't buy these items anymore! Don't miss this opportunity!" Import duties on luxury goods in China run as high as 40 percent, so duty-free shopping is a major draw for Chinese traveling overseas. Something told me this wouldn't be the last such "opportunity," but the urgent appeal seemed to work. Guests roamed the harshly lit store scrutinizing cigarettes, perfume, and high-end rice cookers.

As we filed up the gangplank, we got our first look at the ship itself. The *Atlantica* was big, no doubt—the length of almost three football fields and, according to the coffee table book about the ship I was given, as tall as the facade of the Milan Cathedral. But in China, home to the world's largest building, public square, aquarium, sea bridge, and high-speed rail network, scale is relative. Peering up at the white leviathan, the guests around me exhibited less a sense of astonishment than, *That seems about right*.

At the gangway, senior members of the hotel staff, wearing crisp, dark blue suits with gold-braid rank stripes on the sleeves, lined up to greet us. A well-ballasted man with a cue-ball dome and a trim goatee extended his hand. "Welcome aboard," he said, introducing himself as Marco Civitella, the hotel director. His job was to make sure every passenger lived in a state of constant if not escalating bliss. Another crew member placed a red envelope containing two chocolate coins in my hand, a riff on the Chinese New Year tradition of giving money to friends and family. When it came to adapting to local culture, bribery seemed a wise place to start.

Boarding the *Atlantica* was like passing through a portal. On one side was China; on the other, a mishmash of Italy and Vegas and the past and the future and luxury and trash and fact and fiction and the ocean and the moon—in short, Cruiseland—with Chinese characteristics. After dropping our bags in our small but sumptuous cabins, Ka and I reported to the main entrance deck, known as Dolce Vita Hall, where the "Captain's Welcome" was under way. Red Chinese lanterns hung from chandeliers, and a string of Chinese national flags danced overhead. A live band played, while a team of crew members wearing sailor's uniforms showed a packed dance floor the moves to *Little Apple*, the ubiquitous 2014 song that's often described as China's *Gangnam Style*.

In a Venn diagram of cruise culture and Chinese culture, line dancing would fill a good portion of the overlap. In cities, women congregate in public spaces to blast music and dance synchronously for hours; the practice is so popular, the government issued regulations dictating appropriate dance moves. It was clear, however, as I watched one mother shake it like she was on *Soul Train*, that such rules now applied about as much as gambling laws. Line dancing was a clever opener, signaling to guests that they'd be experiencing something new, but not too new. Surrounded by so much gyration, I didn't even notice when the ship started to move. We were at sea.

Off to the side of the dance floor, I was perusing the snack options—milkshakes and chocolate-covered apples—when I heard someone shout in English, "Topless!" One of the crew was selling tickets to *Blue Velvet*, the burlesque show scheduled for the last night of the cruise. Seeing he had my attention, he cupped his hands a short distance from his chest. "Very big!" he said, grinning. I was surprised that a cruise geared toward Chinese families would have a strip show. I later learned that Costa offers this show *only* in Asia, where, in the words of Cruise Director Giovanni Azzaro, "they're a little shy, but curious."

At the stage show I attended that evening, a pop music revue called *Solid Gold* that included dance numbers based on *Thriller*, *I Will Survive*, and songs from the Spice Girls, the audience reacted with near-silence. When a risqué striptease to *You Can Leave Your Hat On* ended with the dancers in nothing but briefs (and hats), the woman next to me furrowed her brow in concern. Later, I asked Lin, the medical student, what she thought of the show. "I didn't understand the lyrics," she said diplomatically, before admitting that the lyrics were perhaps not the point.

Azzaro said that Chinese audiences just have a different way of showing their appreciation. "They are not used to seeing the girls in the bikinis. They're like, 'Whoooooaaaaa,'" he said. "But we always get good comments." The audience did seem engaged. Despite the preshow announcement that photography wasn't permitted, the orchestra level was a galaxy of tiny lighted rectangles. One man stood up and rested a giant SLR zoom lens against a post for stability. "We say in Italian, 'It's a lost war,'" Azzaro said.

The following night's show, *Magika With Ivan and Julia*, went over better. Magic, I thought, as I watched Ivan shove a half-dozen blades through a box containing Julia, is universal. The audience applauded every stunt. For Chinese cruises, Costa chooses performances that emphasize the physical over the verbal. Instead of a comedian, they feature a circus act; instead of a hypnotist, a magician. I asked Azzaro whether he considered incorporating Chinese-style entertainment, like Peking opera. "Frankly, no," he said. The point was to offer Chinese customers a chance to see something new—and to avoid any gaffes. To appropriate a culture that "we don't know deeply," he said, "could be a mistake."

Emerging from the theater, I came across a noisy group crowded around a small dance floor. In the center, a blindfolded old man was getting a lap dance—from another man wearing a blond wig and a red dress stuffed with two balloons. When the blindfold came off—"Take a look at your girlfriend!" said the MC—the old man gave a good-humored smile, and everyone burst out laughing. Rampant timidity suddenly seemed like an imperfect explanation for the silence during the stage shows. More likely it was the novelty: Audience reactions, whether it's throwing up a fist at a rock concert or hooting at a strip club, are learned behaviors. Just as Costa was learning what Chinese guests wanted, the guests were learning what they were supposed to want and how to express that.

The last event on the schedule was Singles Night, located way down in the nether-decks at a eurotrashy disco called Dante's. When I arrived, I assumed I was early. Or late. As it turned out, the event lived up to its name, as there was only a single person there: me. I chatted up one of the bartenders, a young Chinese

woman with tortoiseshell glasses who'd sailed in Europe before. There, she said, people would stay up dancing till 3 or 4 a.m. In China, the club was almost always empty. The bars, too, since Chinese customers don't drink much. "You have to offer many times before they'll buy a drink," said Zhang Longjun, another bartender at the club. Finally, a few teenagers came in and ordered cocktails. I asked them why they weren't dancing. They said they didn't know how. I danced alone for a minute in the purple-and-blue lights and went back to my room to sleep.

Tai chi is difficult anywhere, but it's a lot harder on a boat, where even mild rolling and pitching make balance all but impossible. I'd risen early for class, held beside the indoor pool, eager to get my *qi* right for our first full day at sea. Now, as I tried to imitate the teacher's movements, I kept toppling over. So did the amateurs around me, including one man in a full business suit. It looked like a physical therapy session for victims of inner ear damage. The scene was almost too perfect a metaphor for the challenge facing cruise companies: They're trying to offer what Chinese consumers want, but not everything translates on a boat.

Adaptation has always been key to the cruise industry's survival. Shipping companies offered pleasure cruises as early as 1844, but most trans-Atlantic passenger ships during the 19th and early 20th centuries relied on immigrants from Europe to the U.S. for their business. When the U.S. tightened immigration laws after World War I, shipping lines were forced to hunt for new customers. Wealthy American tourists eagerly filled the gap, especially after the 18th Amendment banned alcohol in 1920. (One French company emphasized booze in its brochure: "As you sail away, far beyond the range of amendments and thou-shalt-nots, those dear little iced things begin to appear, sparkling aloft on their slender crystal stems ... Oh so gurglingly good!") The advent of air travel in the 1950s disrupted the passenger shipping industry once again, prompting companies to pitch luxury cruises to middle-class Americans rather than just the upper crust. With a boost from the postwar economy, the mass-market cruise industry took off and has thrived ever since, with a current global annual growth rate of 7 percent.

Costa first approached Chinese officials about running cruises out of Shanghai in 2005. The government was initially suspicious, said Massimo Brancaleoni, then vice president for Costa's Asia operations. They were concerned that Costa wanted to run overnight gambling boats like the kind that set sail out of Hong Kong. After Brancaleoni and his colleagues explained the concept of a cruise—good food, entertainment, a family-friendly environment—they became more amenable.

China's laws weren't written with passenger liners in mind; they're geared to accommodating cargo ships. New rules had to be negotiated allowing vessels to be restocked in port without goods being taxed. (The *Atlantica* serves food from all over the world, including Thai rice, German jam, Greek orange juice, Korean strawberries, and lentils from the United Arab Emirates.) Nor were Shanghai's facilities up to international standards. Many cruise ships were too tall to pass under the bridge that separates the city's primary port from the ocean, so the biggest vessels couldn't call until the Wusongkou port was built.

In 2014, Carnival's chief operating officer, Alan Buckelew, relocated from Miami to Shanghai. I met him at the Costa offices there. "It reminds me of my youth," he said, when I asked about the China market now. "Back in the late '70s and early '80s, cruising in the U.S. had many of the same characteristics as China today." It was regionalized, with cruise lines typically based in one home port. Fly cruising—taking a plane to a boat, often as a package deal—hadn't become popular. Cruises were also shorter, before repeat cruisers and retirees sought out longer voyages. In China, many last only three or four days, to accommodate the country's shorter holidays.

Carnival and Royal Caribbean have always jockeyed for market space (Carnival was once dubbed "Carnivore" for its many acquisitions), and China is no exception. Each company has mobilized some of its biggest weapons—the megaships *Quantum* and *Ovation* for Royal Caribbean, the around-the-world cruise and the *Costa Serena* for Carnival—and hastened to flatter its new crush. "No civilization in the world has a longer history

than China," Royal Caribbean CEO Michael Bayley said at a press conference in Beijing in March. "We look forward to being a small part of that tremendous history for a long time to come." The market is so fresh that it's not yet a zero-sum game. "We hope they're wildly successful," Buckelew said when I asked about competition from Royal Caribbean. "Then we'll be wildly successful." For now, that means brand differentiation. Costa emphasizes its Italian heritage; Princess pitches itself as a quieter experience aimed at self-improvement; and Royal Caribbean hypes its gee-whiz facilities, including climbing walls and sky diving simulators. (Its slogan, in its entirety, is "WOW.") Of course, what works in other parts of the world doesn't always work in China.

"There must be class divisions," said the former Mao disciple, smoking inside his deluxe cabin

Lunch was a madhouse. The ship had two separate buffet areas, both jammed. Lines wound around corners, guests squeezed past one another with cups balanced on plates, and the ill-timed lurches of the ship turned brushes into collisions. For all the complaints I heard about there not being enough Chinese food, it seemed plentiful to me—steamed buns, stir-fried noodles, fried rice, porridge—though it skewed toward sweet southeastern cooking rather than inland spice. Many guests ventured beyond local dishes; the line for burgers was just as long as the noodle bar's. Striving for cultural synthesis, they served bubble tea in kiwi, original, and watermelon flavors—the colors of the Italian flag.

Civitella, the hotel director, gave me a tour of the kitchen. He wore a jolly smile and gleaming black shoes. On China cruises, he explained, lunch is the busiest meal. "Compared with European guests, the Chinese eat very early," he said. They also eat faster—which means the kitchen has to move twice as quickly—and order far less booze. Back when he first came to China with Costa in 2010, he said, groups would order a single cocktail, passing it around for each person to take a sip and a photo.

Since then, he's seen behaviors change. Guests are drinking more wine, using chopsticks less, and becoming more receptive to Italian food. Still, during sit-down dinners, about 60 percent of guests will choose the Asian option over the Italian. (Taiwanese guests prefer Italian food, Civitella said, for "political" reasons.) The kitchen has adjusted by hiring a dozen Chinese cooks and one chef from Shanghai. The VIP "Chef's Table" meal, where cooks prepare food in front of guests, was especially popular. "As you know, Chinese guests are very proud," Civitella said. "They like to show they are important."

This idea—that Chinese travelers want more class distinctions rather than fewer—became a refrain. When I first met Li, the architect who disdained bread, we were on a shore excursion in Japan. He was griping that as a top-paying guest, he should have a better seat on the bus. "Money buys good service," he told me. He'd worked hard and wanted to feel like his earnings were well spent. One day by the pool, I met Frankie Wu, a young father and analyst in the luxury industry in Hong Kong, who had a similar criticism. "They're treating everyone the same," he said. Ticket prices ranged from $1,162—about a third of the average Chinese person's annual disposable income—to $6,456. "People here are from very different backgrounds. They should be treated with more prestige."

After the rigidly stratified liners of the early 20th century—think Jack and Rose in *Titanic*—cruising in the last few decades has become a socially flattening activity. Despite all the talk of pampering and royal treatment, cruises are largely about the democratization of luxury. Once aboard, everyone is equally regal. Yet Wu and Li wanted cruising to be more like the floating caste systems of yore. "Collective experience is a dirty word now," Wu said. Chinese people with money "want to be treated differently, just because they earn a tiny bit more than the people living next door."

If conspicuous consumption was the goal, opportunities abounded. The mezzanine above Dolce Vita Hall was lined with luxury shops, including Gucci, Omega, and Longines—a renovation made last year especially for the China market. Walking to the theater for the nightly show, guests had to traverse a long, sparkling hall of duty-free stores. The sales pitch continued inside. Before that night's stage act, there was a 15-minute "shopping fashion show" in which performers modeled various available-for-purchase items. It began with a man and woman slinking out like runway models. He put a ring on her finger, and they held the pose, letting the diamond glint in the light. It would have been a perfect piece of salesmanship if it weren't for the soundtrack, Kanye West's *Diamonds From Sierra Leone*.

Next stop was the ground zero of wealth-display rituals, the casino. I realized why I'd been dancing alone the night before: Everyone was here. There were 14 tables for gambling and dozens of slot machines with themes such as "Golden Monkey," "Asian Princess," and "Silk Road Zorro." Almost every table was full, and judging by the number of onlookers, the main events were baccarat and a game called Sic Bo, also known as "big and small." Both are special to Costa's Asian cruises.

Presiding over the scene was a well-coiffed Australian named Nathan O'Brien, who explained the rules of Sic Bo. He pointed to a covered popping mechanism containing three dice—*sic bo* means "precious dice" in Cantonese—and then to an electronic board that logged the last 10 or so rolls. The croupier would pop the hidden dice, and players would bet on what they showed—a "big" total (11-17), a "small" total (4-10), odd, even, double, triple, or some other condition—based on what had been rolled recently. "Because of course there's a relationship," I said. "You got it," O'Brien said with a smile.

One player, Shun Chunhong, a restaurant owner from Beijing with a wispy beard that nearly reached his chest, told me his strategy. It wasn't about luck, he said. It was about waiting for a pattern to emerge. After a streak of three smalls in a row, he put down a $25 chip on small. The dice popped, and the result came up: big. The chip disappeared. Still, Shun had faith in his method. "I'm an extremely controlled person," he assured me.

Over at baccarat, a group of middle-aged men and one woman

sat glued to their chairs, nursing thermoses of hot water. One of them, a combed-over gentleman from Hangzhou, was maintaining a steady sheen of sweat. Any time a crucial card was dealt, he'd lift the corner with painstaking slowness, as if peeling a decal off the table, and peer into the widening gap while screaming. I watched some players bet $500, $1,000, $2,000—more than some people had paid to get on the ship in the first place—on almost every hand. The highest rollers of all disappeared behind a partition into a private playing area, leaving the rest of us to only imagine the quantities being wagered.

We were off the boat now, back on land, familiar in that it was firm, unfamiliar in that it was Fukuoka, a port city in southern Japan. We passed through customs and piled onto a bus, where a local guide named Duan Fei took over. "How many people have been to Japan?" she asked. No hands went up. Yet everyone was happy to share their Japan expertise. "The food portions are so small, it doesn't fill you up," said Zhao Yang, an employee at an industrial technology company in Yunnan province who was traveling with his mother. As we drove past some traditional-looking houses, a cantankerous executive sitting next to me, Qian Qi, noted their debt to Chinese architecture. "Tang Dynasty culture had a big influence on Japan," he said. Li, the architect, jokingly imitated a Japanese person by bowing low, then pretending to smack his interlocutor across the face.

In an industry where many things can and do go wrong—collisions, fires, norovirus outbreaks—shore excursions outside China pose a distinct risk. Chinese who want to emigrate but can't get a proper visa sometimes just disappear from a tour group. Passengers who arrange their own visas have to pay a deposit of up to 100,000 yuan, or $16,000, according to our tour organizer, Yi Hua. If a guest boards with suspiciously light bags, Costa reports him to the authorities as a possible flight risk. At the height of the tense standoff over the Diaoyu Islands in 2012, a Chinese guest on a Costa ship docking in Fukuoka unfurled a provocative banner, prompting Japanese police to board. Factor in the language barrier, and a Chinese tour group in Japan is an international incident waiting to happen. When we stopped at the Nagasaki National Peace Memorial Hall for the Atomic Bomb Victims, one Chinese cruiser loudly explained to me why the Americans were heroes to drop the nuke.

Everyone from Costa to the local guides to the cruisers themselves went out of their way to preserve harmonious relations. When first boarding the ship, guests passed underneath an LED board that read in English, "Civilized Behaviors, Enjoyable Trips." Pasted to the window nearby was a poster listing seven unwelcome behaviors, including cutting in line, spitting on the ground, carving into trees or cultural relics, and removing one's shirt in public. Our guide in Japan, Duan, reminded us not to litter. She even warned us to mind our valuables in crowded places, not because of local thieves—Japan is notoriously safe—but because "there will be a lot of Chinese people around." My traveling companions, mindful of stereotypes about Chinese travelers, behaved respectfully. Some adapted especially well to local culture, like the young couple that bought a shrinkwrapped multimedia set of Japanese pornography and passed the DVDs around the bus for appraisal.

After stopping at a hot spring and a Japanese barbecue, our group got down to the real business of the day: shopping. The bus pulled into the parking lot of a pharmacy called DrugOn, and everyone grabbed a basket. I noticed Li beelining for the health checkup station. There were two tiers: basic, for about $250, and premium, for $1,000. He signed up for the latter and disappeared into a back room.

Later, I saw a pair of employees sitting with Li on a bench. Preliminary blood test results indicated he was sick. Li knew, he told them. He'd recently been diagnosed with cancer in his stomach and colon. He just wanted a second opinion—a Japanese one. Now I understood why, of his many family members, Li had chosen for a traveling companion the one who was a medical student.

Like the cruise companies, DrugOn has geared its services to China's tourist economy. Product sections were labeled in Mandarin, and about half the employees I saw were Chinese. One attendant, a student from Ningbo named Xia Zhishui, said a large portion of their clients are Chinese travel groups. "Right now, everyone likes 'Made in Japan,'" he said. "They think the medicine in China isn't safe." Japan also approves some medicines for over-the-counter sale that are unavailable or require a prescription in China. My *Atlantica* shipmates packed their baskets with everything from moisturizer to forehead-cooling pads to a ginger-based hangover cure.

We spent the rest of the day—indeed, the next several days—hopping from one duty-free store to another. They all blended together, as if they were really one big store connected by wormholes. They were uniform in style, lit like the solar core, and overcrowded, as if designed to wear down one's defenses. "My head hurts," said Qian, the executive, as we walked into the umpteenth outlet of the trip. A few minutes later he was buying a Panasonic shaver. The products had a consistency, too. In addition to the inevitable fancy watches and cosmetics and jewelry, there was a wide selection of organic health pills, thermoses, and rice cookers. Li bought all three.

After this eternity of aisle-browsing, it was becoming clear that shopping was, for many people, a highlight of the cruise. Toward the end of our day in Fukuoka, Duan called for a vote on whether to keep shopping or return to the ship. The vote was nearly unanimous. "One usual complaint we see is there's not enough time for shopping," said Buhdy Bok, Costa's senior vice president for Pacific Asia and China.

Inconceivable as this seemed to a mall-phobe like me, it made sense for many Chinese guests. Whereas the typical American cruiser's ambitions peak at stress-testing the all-you-can-eat buffet, Chinese travelers see cruises as an opportunity for self-improvement. "Chinese guests want to explore," said Cherry Wang, country director for Princess Cruises in China. "They want to raise their level of life." That may mean seeing new places, learning new skills, or improving their economic situation. Wang said this has to do with the fast pace of China's growth, as many now-middle-class consumers still remember extreme hardship. "Many people think, 'I have a lot of power now, but if I relax and enjoy my life, then in a year or two I won't be able to catch up.'"

The burlesque ended to silence. "A clash of civilizations," said Wu. Then again, that was the point

This also helped explain the endless activities aboard the ship. Most Chinese guests didn't want to veg out and read a book; they could do that at home. On the cruise, they wanted to be engaged. (The word many people used was *tiyan*, or "learn through experience.") Some of those experiences were a bit too foreign: The Fellini film series didn't go over well, so Costa replaced it on some trips with Chinese movies such as *House of Flying Daggers*. Others weren't foreign enough: The *Atlantica* used to have a spa but removed it because it was so unpopular in China. "You have to find time to do the spa," Bok said, and most Chinese cruises are short. Plus, for a culture that has been getting rubdowns for millennia, there is nothing novel or exotic about a spa.

Not everyone I spoke with favored the cram-it-all-in style of travel. Young guests, especially,

said the shore excursions were too much, too fast. Zhu Hai Bin, a 34-year-old man with a stylish topknot, said he felt rushed for no reason. "If you go to a customer-oriented country like Japan, you want the experience to be customer-oriented," he said. He'd have preferred to wander around with his wife, apart from a tour group. Next time, he said, he'd skip the cruise and "travel freely."

The last night of the cruise, I slipped into the theater for the *Blue Velvet* burlesque show. It was packed. No one had been talking about going, but suddenly everyone was there. During a rendition of *Crazy in Love* featuring female police strippers and a white man rapping, I noticed two couples from our tour group in front of me, cuddling. As a group of dancers shed their white fedoras and long coats to a song whose dominant lyric was "Spank me," I saw Li and his grandniece looking patiently engaged, as if absorbing a TED Talk. At the curtain call, the audience was, as before, almost silent. "It was a clash of civilizations," said Wu, the luxury industry expert, after the show. Then again, that was the point.

By the time we woke up the next morning, the ship was approaching Shanghai. We had a couple of hours before disembarking, but the onboard activities were shut down, so passengers draped themselves over whatever seats were available, forcing passersby to navigate around mountains of shopping bags. Despite the gripes about the lack of Chinese food and the rushed shore excursions and the insufficient economic stratification, most people seemed pleased. I felt exhausted. Between the gorging and spectating and duty-freeing and remaining vigilant for international incidents, the last six days had been anything but relaxing. It made me want to take another cruise just to recover. But I wasn't the target audience. Most people I asked said they would consider cruising again.

I wanted to have one last conversation with Li. When I knocked on the door to his cabin, he invited me in. He poured white tea, which he drank from his new thermos, and offered me a cigarette, a high-end brand from Wuhan called Yellow Crane Tower. (If Li was going to smoke despite cancer, he certainly didn't care about Costa's in-room ban.) When I asked about the burlesque, he said he was used to that kind of thing. "I've been to the Moulin Rouge," he said. "It's very classy. Much better than Chinese smut."

Li talked about his childhood. Growing up in rural Shaanxi province, he said, "my family had no food." He remembered eating tree bark and grinding up corncobs so his family could eat the powder. Despite the extreme deprivation, he was a loyal Communist. "Everyone worshipped Mao like a god," he said. In 1969 he met a student of Liang Sicheng, who's known as the father of modern Chinese architecture, and became his apprentice. Ignoring the prevailing Cultural Revolution ethos of "Destroy the old world, establish a new world," Li soon became fascinated with traditional Chinese architecture. He later established a design firm dedicated to constructing old-style buildings, which flourished. He now makes millions of dollars a year, he said.

I asked how he reconciled his early faith in Mao with his penchant for VIP vacations. "There must be class divisions," he said. "If there's no stratification, there's no motivation to work hard." What about the notion that everyone should be equal? "That's just an idea," he said. "Communism is a great idea, just like the religions in your country: Catholicism, the Virgin Mary, heaven. What is heaven? Have you been?"

In recent years, President Xi Jinping has talked about "the Chinese dream." Li said he sees a connection with cruising. "What's the Chinese dream? It's to get what you deserve through hard work," he said. "What's the reward you deserve? Enjoyment." At this point, he was just trying to enjoy himself. He lit another Yellow Crane Tower. "Worrying does no good. If you're afraid of death, you can't live."

His grandniece, Lin, had been quiet the entire trip. When I asked her later what she thought of the experience, she sent back an effusive note. "It was so romantic," she wrote. "The boat felt like an exotic country, a place of rare calm. ... Participating in the activities, no one knowing anyone else but still having fun. ... Or occasionally sitting alone in the cafe, listening to music. It was a pleasure. I hope I can go again." B

CAN DAVID CHERNICKY SURVIVE ANOTHER EARTHQUAKE?

His company's massive water disposal wells have helped drive Oklahoma's fracking boom. They may also lead to man-made disasters

By Ben Elgin and Matthew Philips
Photographs by Bryan Schutmaat

One of the most productive oil fields ever discovered in Oklahoma lies directly beneath its seat of government. A 32-square-mile underground reservoir, the Oklahoma City oil field was first tapped in 1928, a decade after the State Capitol building was finished. Some of its earliest wells were famous gushers, spouting oil hundreds of feet into the air for days before being brought under control. Over the next three decades the field produced close to a billion barrels of oil, helping Oklahoma weather the Great Depression and Dust Bowl and securing its ties to the energy industry.

By the late 1960s the Oklahoma City oil field was largely spent. As crude was sucked out, it gradually flooded with vast amounts of salt water, the remnants of an ancient ocean that once covered the Midwest. The pockets of oil and gas that remained in the reservoir were trapped deep inside rocks. The only way to get at them was to "dewater" the field—which meant pumping out hundreds of millions of barrels of salty, often toxic wastewater, then disposing of it.

David Chernicky saw an opportunity. A trained geologist turned wildcatter, he's devoted most of his 35 years in the oilpatch to perfecting the business of reviving oil fields instead of exploring for new ones. "I try to pick the ugly girl at the dance," he says. Chernicky spent years studying the Oklahoma City field, poring through stacks of geological studies and surveys, some of which went back 65 or 70 years. He figured it still held about 50 million recoverable barrels of oil. "That 2-foot-thick file of data on Oklahoma City says there's a ton of oil still there, but you have to think outside the box to get it," he says.

The problem isn't so much pumping the water out, but finding a place to put it. In Oklahoma, the easiest thing to do is inject it back underground. With most disposal wells capable of handling only a couple thousand barrels per day, Chernicky needed something an order of magnitude bigger. In 2003 his Tulsa-based company, New Dominion, began work on a new breed of injection well, a type that could take down tens of millions of barrels a year and bury it deep underground. Chernicky, who has a bawdy streak, named the first one Deep Throat.

The kinds of disposal wells Chernicky pioneered have been instrumental to Oklahoma's fracking boom, which has doubled the state's oil production in the past five years. They're also at the center of a controversy. In the past decade, as wastewater disposal rates have doubled, seismic activity has exploded across Oklahoma. After averaging 1.6 earthquakes per year of magnitude 3.0 or higher, the state experienced 64 in 2011, including its largest in recorded history—a 5.7-magnitude temblor on Nov. 6, 2011, centered in Prague, 50 miles east of Oklahoma City, that buckled a highway, destroyed 14 homes, and injured two people. Last year the number soared to 585 quakes, making Oklahoma the most seismically active state in the continental U.S.; it's on pace for 900 quakes in 2015. Swarms of quakes have rattled other states with oil and gas operations, including Arkansas, Colorado, Kansas, New Mexico, Ohio, and Texas.

Seismologists who have studied the phenomenon of manmade quakes—which they call "induced seismicity"—ascribe them to the massive amounts of oil and gas wastewater being injected deep underground near fault lines. Over time, geologists say, the disposal water changes underground pore pressures, in essence lubricating the fissures between tectonic plates and causing them to slip. "Wastewater injection," says Bill Ellsworth, a seismologist at the U.S. Geological Survey, "is undoubtedly responsible for the majority of these earthquakes." On April 21, the state-run Oklahoma Geological Survey (OGS) issued a statement declaring that the oil and gas industry is "very likely" contributing to the huge rise in earthquakes in Oklahoma.

Few companies have more at stake than New Dominion. A July 2014 study published in *Science* found that four high-volume disposal wells owned by New Dominion on the outskirts of Oklahoma City may have accounted for 20 percent of all seismic activity in the central U.S. from 2008 to 2013. Two victims of the 5.7 quake from 2011 have sued New Dominion for damages; the state Supreme Court has agreed to hear the case of Sandra Ladra, a 64-year-old resident of Prague, who sued after her stone chimney crumbled during the quake, sending rocks crashing down on her legs. Should the court establish a precedent where New Dominion and


A truck carries wastewater from oil fields to the West Perkins Commercial Disposal site

Shake, Rattle, and Drill

Some 3.3 billion barrels of wastewater were pumped into Oklahoma's disposal wells from 2011 to 2013. That's like redirecting the Mississippi River to pour water underneath Oklahoma for eight and a half hours, and scientists have linked that water to an increase in potentially damaging earthquakes.

companies like it can be held liable for earthquake damage, the fallout could be severe. “If wastewater wells come under heavy fire from lawsuits and regulations, it could change the entire economics of the oil industry in this state,” says Kim Hatfield, chairman of the regulatory committee at the Oklahoma Independent Petroleum Association. Steve Everley of Energy In Depth, an industry-backed research group, says, “If you shut down [wastewater] disposal, you’re effectively shutting down production.”

Outwardly, Chernicky doesn’t sound concerned. “It’s pure, unmitigated s---,” he says of the Ladra case. Although New Dominion isn’t one of the major producers in Oklahoma, the 61-year-old Chernicky is one of the state’s most recognizable entrepreneurs, a gregarious, eccentric oilman prone to spontaneous acts of generosity. Once, he once saw two ladies in a gas station with a beat-up car that wouldn’t start, so he went and bought them a new one, no strings attached. He’s adamant that the evidence tying underground wells to earthquakes is unreliable and confident New Dominion will prevail. “I deal with science,” he says. “That’s what this will come down to. Is it about science? Or is it about emotion?”

With his wavy, shoulder-length hair, toothy grin, tanned face, and fondness for Bermuda shorts, Chernicky could pass for an extra on *Miami Vice*. He hosts parties and civic functions at his condo overlooking downtown Oklahoma City, which he dubbed the Champagne Penthouse, and owns an assortment of boats, homes, and property in Colorado, Oklahoma, and rural Pennsylvania. Divorced with no children, he estimates his net worth at $300 million to $500 million, depending on the price of oil.

The fourth of 10 children, Chernicky learned to work hard early. His father, Thomas, was a first-generation American whose parents emigrated from Ukraine. After serving in World War II, Thomas worked at Tinker Air Force Base near Oklahoma City, helping retrofit B-52s. The Chernicky children didn’t get any allowance and were all expected to earn their own keep. “Dave was probably the most industrious of the kids,” says his older brother Wayne. “Of all the 10 kids, Dave saw the opportunities to make money the earliest.” David took on four or five paper routes. When he turned 14, he realized he could make $1.10 an hour at McDonald’s, where he’d sometimes work more than 80 hours per week.

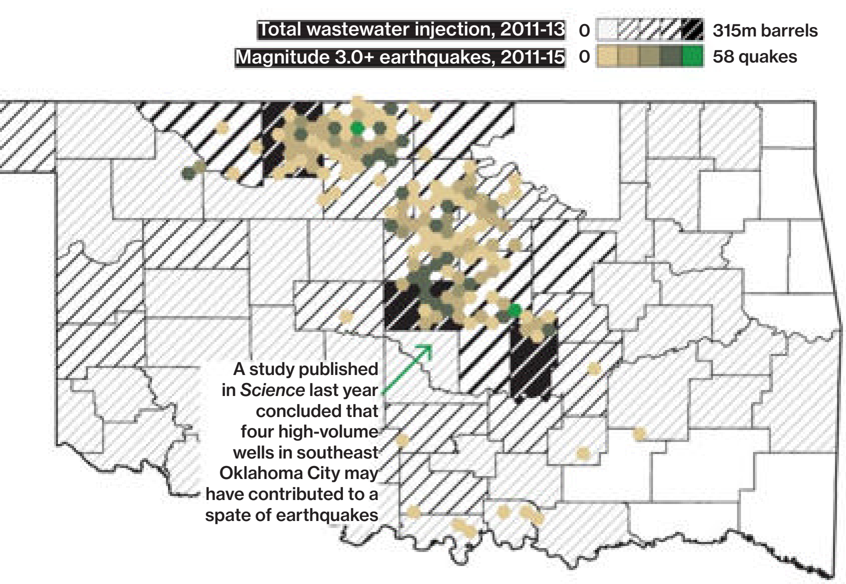
After a stint in the Air Force, Chernicky earned a degree in exploration geophysics from the University of Oklahoma. He went to work in Wyoming and the Rocky Mountains for Marathon Oil and Amoco before striking out on his own as an independent petroleum geologist. He quickly gained a reputation for his unconventional methods of finding oil. “I’ve never found an appreciable drop of oil through textbook geology,” he says. When oil prices tanked in the mid-1980s, things got tight. “At that time, working at McDonald’s probably paid better than being a self-employed geologist in Oklahoma,” says Wayne. To get by, David drove a truck for Wayne’s office supply business in Tulsa. “I’ve seen him come through good times and bad times,” says Wayne. “Each time, I see him come out stronger.”

By the mid-1990s, Chernicky had established himself as a technical master of dewatering, putting his consulting company, Chernico Exploration, in high demand. His first big success was dewatering an old oil field called the Red Fork, lowering large, submersible pumps into the wells to suck out massive quantities of water. The more water that was drained, the more oil and gas seeped out of the sandstone. A successfully dewatered field quickly shrinks the ratio of water to oil. In one of its earliest wells, New Dominion initially pulled up 160 barrels of water for each barrel of oil. Over 16 months, that improved to 7.5 to 1. “It was a very smart idea,” says Kurt Rottmann, a petroleum geologist who has worked on Oklahoma oil fields for four decades. “David Chernicky recognized the potential of this very early on.”

Chernicky, however, was growing impatient with consulting and watching other companies botch his handiwork. Dewatering was a precise science, and he felt he could make it work better by controlling every facet of the operation. “Oil companies kept f---ing up my oil fields, so I figured I was ready to try it on my own,” he says. He started New Dominion with two other partners in 1998. By the early 2000s the company was operating more than 100 wells, producing a total of 4,000 to 5,000 barrels of oil a day, plus millions of cubic feet of gas.

Chernicky set his sights on the long-dormant oil field beneath the Capitol, investing millions to replace the old pipes and underground pumps that were defunct and rotting. “If you asked a dozen different geologists, they would have said you can’t get that oil,” he says. “There’s no way. Well, I didn’t get that memo.” The centerpiece of Chernicky’s plan was Deep Throat, the disposal well that switched on in 2004. By 2006 it was pumping water at full throttle. In the next eight years, it would inject 100 million barrels of wastewater into a limestone formation about 2 miles beneath the city. That’s equivalent to all the water falling over Niagara Falls for nearly two hours.

Deep Throat caught the attention of Dan Boyd, a petroleum geologist at the OGS. Boyd was well aware of previous instances where injecting fluid deep underground caused




For every barrel of oil produced in Oklahoma, 10 barrels of wastewater are sucked out

earthquakes. In 1961 the U.S. Army drilled a 12,000-foot disposal well in the Rocky Mountains to get rid of millions of gallons of toxic waste from napalm production and other sources. Shortly after injection began, quakes began rattling the nearby Denver area, including a 5.3-magnitude temblor in 1967. A year after injection stopped, the seismic activity faded. Boyd believed the wastewater pouring out of Chernicky's disposal wells might trigger similar activity in Oklahoma. "I'd never seen a well that could put away as much water as Deep Throat," he says.

On the night of Dec. 20, 2006, Boyd's fears were realized. A few minutes after 8 p.m., residents on the southeast edge of Oklahoma City heard a loud boom, followed by a sharp jolt that shook people's houses. Four hours later, just after midnight, it happened again. Calls flooded into police and fire emergency lines. The initial fear was that something had happened at nearby Tinker Air Force Base—an explosion, an attack—but by the next morning, scientists at the OGS determined the area had been struck by two earthquakes. "It was an epiphany," says Boyd.

In January 2007, New Dominion opened a second disposal well near Oklahoma City called Sweetheart. A month later, a small swarm of quakes struck nearby. In March, Boyd and three other scientists at the OGS drove to Tulsa for a four-hour meeting with New Dominion. The meeting was hosted by Steve Chernicky, New Dominion's director of field operations and David's brother. David also showed up, Boyd recalls, wearing a golf shirt and Bermuda shorts. He placed three or four mobile phones in front of him on the conference room table and excused himself from the meeting each time one rang. While nobody accused New Dominion of causing the earthquakes, there was a "tacit understanding that the well had something to do with this," says Boyd. "Everybody in the room was thinking about earthquakes. The correlation was obvious."

After lunch, as the meeting concluded, New Dominion agreed to pay for the OGS to install $100,000 of seismic equipment around Oklahoma City, including some at New Dominion's wells. In recalling the meeting, Chernicky says he was mindful of the James Bond movie *A View to a Kill*, where an evil microchip tycoon played by Christopher Walken tries to destroy Silicon Valley with an earthquake. "We wanted to prove we weren't being the James Bond villain," he says. The deal placed no limit on New Dominion's wastewater injection volumes. Over the next two years, New Dominion added two more high-volume disposal wells to the area, named Chambers and Flower Power.

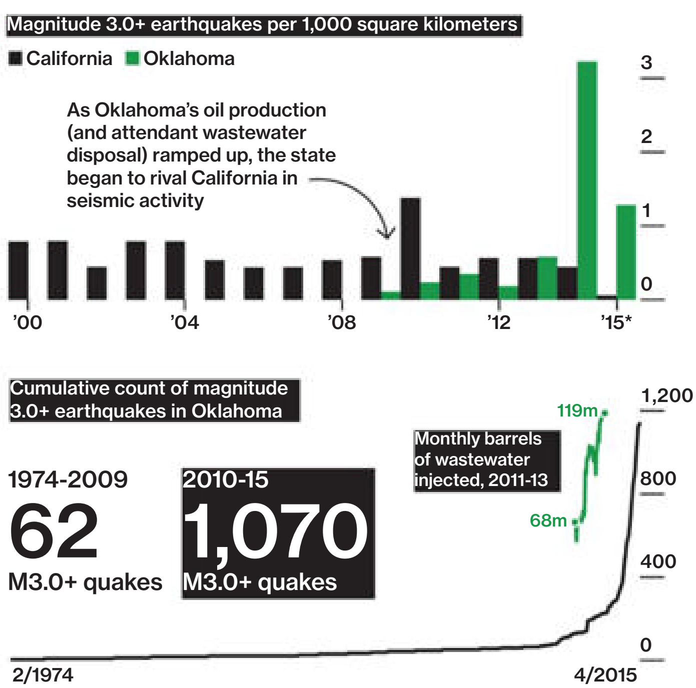
As Chernicky looked for other dewatering opportunities, he found a lot of rundown communities whose oil had run out decades earlier and needed some help. In Carney, he gave $10,000 to finish a high school. In Prague, he donated $1 million for a city water expansion project and $50,000 to help build a new library. In January 2006, after a busy wildfire season, he donated $15,000 to local fire departments. He also started throwing an annual party in Prague called New Dominion Dayz to raise scholarship money for local students. Kids played on inflatable bouncing slides. Riding lawn mowers were given out as raffle prizes. A highlight was Chernicky in the dunk tank. In news articles, Prague's city manager called Chernicky the "T. Boone Pickens of Prague."

Chernicky's largesse has helped to deflect attention from the role New Dominion may be playing in the crescendo of earthquakes across Oklahoma. The record 5.7 quake that hit Prague in November 2011 was the second of a trio that rumbled through over a four-day period, all measuring 5 or higher on the Richter scale. An air-conditioning duct fell through the ceiling of the Prague library Chernicky had helped build. Library Director Pam Batson got some cracks in her home, though she says she's grateful for the donations from companies such as New Dominion. "It's sort of like a double-edged sword," she says.

A few blocks up from the winding Arkansas River in Tulsa, New Dominion is headquartered in a four-story, 40,000-square-foot building with an exterior of brick and red Arizona sandstone, as well as an intricate metallic cornice. An arch soars above the entrance. Inside the glass doors, a marble-floored atrium leads to the front desk. Off to one side of the entrance is a conference room, where a vibrantly colored portrait of Chernicky hangs prominently in the middle of the wall.

These are challenging days for New Dominion. Dewatering is among the most expensive ways to produce oil, and with crude trading at around $50 a barrel, down from $100 last summer, New Dominion's fields likely aren't as profitable as they once were. "This is the first time in over 20 years that I haven't had a single drilling rig working for me," Chernicky says. The company won't hold its New Dominion Dayz festival this year. In January, Chernicky sued several former business partners, alleging they unduly paid themselves millions in bonuses before the partnership unraveled, a claim the former business partners dispute.

The biggest threat to New Dominion's prospects comes from Ladra, the plaintiff in the lawsuit over the 2011 Prague earthquake. Academic researchers published a paper in *Geology* in 2013 that linked the quake to a couple of nearby disposal wells, including one owned by New Dominion. In August 2014, Ladra filed her lawsuit, accusing New Dominion and others



*AS OF APRIL 5, 2015. DATA: OKLAHOMA CORPORATION COMMISSION; OKLAHOMA GEOLOGICAL SURVEY; U.S. GEOLOGICAL SURVEY; KERANEN ET AL, *SHARP INCREASE IN CENTRAL OKLAHOMA SEISMICITY SINCE 2008 INDUCED BY MASSIVE WASTEWATER INJECTION*

of knowingly causing the earthquakes, seeking both personal injury and punitive damages. An Oklahoma judge dismissed the suit months later, saying the matter should be handled by the state's oil and gas regulators. When Ladra appealed, the state Supreme Court stepped in and agreed to rule on whether the courts should decide these cases. "Anybody that isn't worried about the potential for lawsuits hasn't been paying attention to the recent legal environment," says Hatfield of the Oklahoma petroleum association. "There are plenty of lawyers out there looking for litigation that they view as an opportunity"—and the oil and gas industry has always been a ripe target. New Dominion is more vulnerable than most energy producers should the courts hold oil and gas companies responsible for earthquakes. Not only is it smaller and focused exclusively on Oklahoma, where the state averages 10 barrels of water for each barrel of oil, but it sought out the most water-soaked fields in the state. Lawyers for the company have issued grim assessments about what a loss in the courts would mean for its business. "These wells will become economic and legal liability pariahs," Robert Gum, New Dominion's attorney, told a judge last year.

For the moment, there's little political pressure on Oklahoma's oil and gas industry to change the way it operates. Republican Governor Mary Fallin has long claimed there isn't enough information to determine what's causing the quakes. She describes the OGS's new position statement as "significant." But when asked if the governor agrees that the industry is likely responsible for the quakes, her spokesman, Alex Weintz, didn't respond.

At the Statehouse, the only two lawmakers willing to talk openly about the issue are Democrat Cory Williams and Republican Jason Murphey, who represent districts that have been shaken by quakes. Last fall they teamed up on a bill to study the quakes in greater depth, but so far nothing's come of it. "It's ridiculous," says Williams, who's pushing a moratorium on wastewater injection in 16 Oklahoma counties. "The oil industry threatens us by saying if you touch seismicity issues we'll start laying down rigs and laying people off. This is the problem of having industry so intertwined with government. We know what's causing it, and we are doing absolutely nothing to stop it and barely anything to regulate it."

At New Dominion headquarters, the company promotes its own theories for the astronomic rise in Oklahoma quakes. Jean Antonides, the company's craggy-faced vice president for exploration, produces a 2-inch-thick cardboard folder stuffed with maps, presentations, and papers—evidence, he says, that the quakes are the result of rapid changes in water levels of underground aquifers caused by drought and heavy rain.

Chernicky, for his part, dismisses the research linking earthquakes to wastewater disposal wells. "The meager amount of science put forward is so flawed, it can't even be considered science," he says. "It is emotion." He contends that the Oklahoma quakes are "the result of tectonic activity happening all over the world." In a year or two, he predicts, the flurry of quakes bedeviling Oklahoma will migrate north into the seismically sleepy states of Iowa and Nebraska, vindicating the oil industry. The vast majority of earthquake scientists disagree. "Pure b.s.," says Martin Chapman, a geophysics professor at Virginia Tech University. "They just don't want to admit they're causing earthquakes."

Chernicky is unswayed. He insists nature's on his side. If humans can cause an earthquake, then they "can probably fart and shift the orbit of the planet, too." He adds: "Man does not cause tsunamis in Japan. Man did not cause the volcanic blast at Krakatoa. And man does not cause earthquakes."

—*Additional reporting by Freeman Klopott*

Wastewater tanks at the West Perkins Commercial Disposal site


An aerial view of Deep Throat, New Dominion's flagship disposal well in Oklahoma City

A M E R I C A' S

GAY CORPORATE WARRIOR

Quark founder Tim Gill is leading a bipartisan effort to bring the struggle for full equality to red states

By Joshua Green

Photographs by Benjamin Rasmussen

In 1992, Tim Gill was living a Rocky Mountain version of the familiar tech dream. A sci-fi buff and self-described "pathological introvert," he'd earned degrees in applied mathematics and computer science from the University of Colorado at Boulder and then, in 1981, founded the publishing-software company Quark in his apartment, with a $2,000 loan from his parents. When Quark took off, Gill became rich. He eventually sold his stake for half a billion dollars. But in 1992, he was merely the multimillionaire chairman of a successful tech company.

Gill was also gay. This aspect of his life, too, had a kind of dream-like quality. He came out to his parents as a teenager and was immediately accepted. In college, he joined a gay organization and started speaking to classes, "having all of nine months' experience under my belt at being gay," he said recently, at his offices in Denver. In his early career, comfortably ensconced in the tech world's creative class, he rarely encountered prejudice or hostility. His gayness was never an issue.

Then, in 1992, Christian groups in Colorado began pushing a ballot measure, Amendment 2, that would prevent nondiscrimination ordinances against gays and lesbians and repeal those already in effect in Denver, Boulder, and Aspen. "It was a shock," says Gill. What was more shocking, though, was that some of his own employees supported the ban, openly and at work. One of them even placed a "Vote 'Yes' on Amendment 2" sign on her desk. "Everyone has the right to their opinion, of course," says Gill. "But I was astonished people would vote against the rights of the person signing their paycheck."

Feeling he had to fight back, Gill donated several thousand dollars toward defeating the measure. "The political consultants said, 'Oh yeah, we can win this,'" he says. But they lost. (The Supreme Court later declared Amendment 2 unconstitutional.) The ratification of anti-gay sentiment in a place where Gill had felt comfortable and accepted was so upsetting that it set him on a path to become ever more deeply involved.

Gill loathed politics. So he turned to philanthropy, establishing the Gay & Lesbian Fund for Colorado, which donated to libraries, symphonies, and even the *Star Trek*

exhibit at the Denver Museum of Nature & Science. If people saw gays and lesbians supporting the same things everyone else did, he reasoned, they'd become more welcoming. Over the next decade, his foundation gave away $100 million.

Then, in 2004, Karl Rove, worried about George W. Bush's reelection prospects, persuaded Republicans across the country to introduce state ballot initiatives outlawing gay marriage. Rove calculated that although many conservatives were cool toward Bush, they would show up to vote if they believed "traditional" marriage was under assault—and would pull the lever for Bush while they were there. On election night, 11 states passed marriage bans—to Gill, a devastating gauge of his ineffectiveness. "That evening was Tim's political awakening," says Scott Miller, his husband.

Gill became radicalized. "I got depressed and angry," he says. "But, in the end, my response was to say, 'Well, how am I going to fix this? These were political defeats. The way you fix political defeats is through politics. And so I thought, 'These people are in office. We can't have that. How do we go about undoing it?' "

He approached the problem as an engineer, seeking to understand a complex system and how it could be rewired. Over the next two years, he assembled strategists, recruited other gay philanthropists, joined with activist groups, and became the nexus of an aggressive new political force. They focused on state races, rather than national ones, to maximize their effect. Gill arranged an annual "OutGiving" conference for donors to coordinate their targets. To maintain the element of surprise—and because the image of a network of rich gay philanthropists swooping in to influence local races might be counterproductive—they often operated by stealth, waiting until the final weeks before an election (so Federal Election Commission filings wouldn't reveal them until afterward) and then flooding pro-gay candidates with dozens of individual donations that could collectively tip a race. This strategy allowed Gill to "punish the wicked," as he liked to say, and establish more favorable conditions to advance gay rights.

When I first met Gill in 2006, gay marriage was legal only in Massachusetts, and he and his allies were targeting a second state. They'd just tipped the Iowa legislature to the Democrats, anticipating that Iowa's Supreme Court would legalize gay marriage (it did), and they were determined to stop any legislation that would override the decision (they did). At the time, the road to full marriage equality seemed to stretch far beyond the horizon. Gill's organizations, and most others in the movement, were hoping to grind out a steady series of victories that could one day serve as the basis for the Supreme Court to legalize same-sex marriage.

That moment could arrive much sooner than anyone anticipated. Political and legal victories have brought same-sex marriage to 37 states. On April 28, the Supreme Court will hear oral arguments and is widely expected to issue a ruling legalizing gay marriage this summer. For people like Gill, who've worked years for this moment, the victory so close at hand is a source of giddy anticipation. It also raises a big question: What comes next?

Gill and a bipartisan group of major donors will reveal the answer at the OutGiving conference on April 30 in Dallas, but they've given *Bloomberg Businessweek* a preview: They're launching a campaign, modeled on the marriage effort, to pass nondiscrimination laws in the dozens of states that don't have them. And they'll also try to halt or unwind "religious freedom" acts like those that raised a furor in Indiana and Arkansas because they could allow businesses to deny services to gays and lesbians. They'll coordinate these efforts through a new organization, Freedom for All Americans, with the goal of building momentum toward federal action. This fight could prove more difficult than the last one, since the states lacking these protections are spread across the South and parts of the Midwest—culturally conservative areas dominated by Republicans.

The campaign won't lack for resources. OutGiving brings together the movement's wealthiest donors, collectively worth billions. Gill says he's spent $327 million already and will spend more. The new organization is prepared to spend $100 million in the coming decade. Although persuading elected Republicans won't be easy, he's counting on two new forces to help the cause: major Republican donors, including billionaire hedge fund founders Paul Singer and Dan Loeb, who are full partners in the new endeavour, and corporations and business leaders, such as Amazon.com's Jeff Bezos and Apple's Tim Cook, whose public support for gay rights—and in Cook's case, outspoken criticism of Indiana's law—has helped frame the national debate. Business, these donors believe, will be the vanguard for gay rights in red America. "One of the things that made us successful on marriage," says Gill, "was that we could call everybody together and get the brightest minds in the movement to devise a strategy that everyone could execute. It worked far better than we could possibly have imagined. Now we have to do the same thing for nondiscrimination in the South."

A victory on marriage will present gay-rights advocates with a curious challenge. Their campaign has been so high-profile, its recent momentum so swift, and the cultural shift so dramatic that a favorable ruling is certain to be recognized as a landmark advance for civil rights. Activists worry that the public will interpret this to mean that gays and lesbians have secured the same rights and protections as everyone else, when, in fact, that isn't the case. Race, gender, and ethnicity all have federal protection from discrimination—but sexual identity doesn't. "If the Supreme Court decision goes as we're hoping," says Miller, "it will leave a situation in most of the country where you can get married and fired for it the same day, or get kicked out of your apartment, because 29 states—32 if you're transgender—don't have nondiscrimination laws."

"These people are in office. We can't have that. How do we go about undoing it?"

The first challenge will be persuading people that this problem exists. "The reaction you get in focus groups when you tell people there are no federal or state protections against discrimination is disbelief," says Patrick Guerriero, a political strategist who's worked with Gill. "They literally don't believe it. They can't imagine that we've come this far on marriage, but you can still be fired just because you're gay. It seems fundamentally un-American."

Winning blanket protections against discrimination is also trickier than securing a national right to marry, because no single court decision can deliver the full range of protections missing from housing, employment, and public accommodations. Passing a federal law would be an easier fix. But as Indiana's religious freedom law demonstrates, this plan will encounter plenty of resistance. Efforts are under way in many states not just to maintain but also to expand statutory provisions that allow for discrimination.

To build momentum for a federal law, Gill and his allies have come up with a plan similar to the one they developed a decade ago for gay marriage. Certain that federal recognition would never come until a majority of states moved first, they embarked on what they dubbed the "10-10-10-20 Plan"—the goal of getting at least 10 states to grant marriage rights, 10 more to grant civil unions, and 10 others domestic partnerships by 2020 to convince Congress or the Supreme Court that society had reached a tipping point.

Their lack of faith in Congress endures. "The whole strategy is piecemeal because we can't rely on the federal government to do anything," says Gill. Instead, the campaign will concentrate on five states with some of the largest LGBT populations that lack protections—Florida, Georgia, Indiana, Pennsylvania, and Texas—and build out from there. To date, legislatures there have

Gill and his husband, Miller

resisted nondiscrimination laws. But supporters have gained a foothold. More than 300 cities and counties, many of them large urban centers, have passed local ordinances, almost half since 2010. Gill believes that supporters in cities such as Houston, Dallas, and Austin, which already have protections, can eventually persuade legislators in Texas and other states to come around.

It won't be easy. Just as Colorado conservatives tried to do with Amendment 2, Texas Republicans want to overturn these existing protections, claiming they shouldn't supersede state law. "Conservative Republican control has allowed them to dilute that urban strength," says Cal Jillson, a political science professor at Southern Methodist University in Dallas.

Utah offers a more promising example of what Gill and his allies might achieve. In March, after working with gay-rights groups and the Mormon Church, legislators passed a pair of compromise bills that together protect gays and lesbians from discrimination in housing and employment, while allowing religiously affiliated institutions to keep certain freedoms in choosing whom they hire.

Of course, the most vivid case—Indiana's—was anything but amicable. Yet Gill seemed delighted by how it had unfolded. By obstinately pushing the religious freedom law even amid a public outcry, Indiana Governor Mike Pence did something Gill's donor alliance might have spent tens of millions of dollars trying to achieve: He alerted people across the country to a form of discrimination few of them had ever conceived of, thereby helping to fix the problem Gill's strategists had identified in their focus groups. "It was really wonderful that this negative reaction came on the national stage," says Gill. "It was an essential part of the education process for the American public: Something people had not even bothered to think about, they now had to think about. The engineer in me thinks you should think about a problem, decide what's fair and equitable, and that's your solution. But people don't do that. They make emotional judgments." He added, smiling, "I actually could congratulate the governor of Indiana on elevating the conversation to the national stage. He's been spectacular."

Ultimately, gay-rights advocates will have to shift from a strategy of confrontation to one of persuasion if they hope to enlist Republican legislatures. That's why business stands to play such a critical role. Plenty of recent evidence suggests corporations and chief executives can succeed where gay-rights activists have not.

In New York, personal lobbying by right-leaning figures in the financial world, including Singer and Loeb, helped advance a marriage bill through the Republican-controlled Senate and into law in 2011. Their appeal to Republicans was that supporting same-sex marriage is consistent with the conservative belief in individual liberty and freedom from government interference. "I bring it up in almost every conversation we have with Republicans," says Loeb. "We think this will be good for the country and good for the Republican Party."

New York was the first place where local and national advocacy groups collaborated, with Gill's outfit working with people on the right to carry out a joint strategy that became the model for subsequent states and the basis of the upcoming nondiscrimination drive. "It's a new approach to be this aggressively bipartisan from the outset," says Margaret Hoover, president of the American Unity Fund, which supports pro-gay Republicans.

In other places, economic considerations have been more effective than appeals to individual liberty. The backlash to a religious freedom bill that Arizona's legislators passed in 2014 was driven by the business community. "Those kinds of measures taint our state's reputation as being an open and accepting place," says Steven Zylstra, who heads the Arizona Technology Council in Phoenix. That's particularly damaging for states such as Arizona that are trying to establish themselves as technology meccas.

Last year, when Toyota Motor decided to move its U.S. headquarters from California to Plano, Texas, a conservative Dallas suburb, company employees asked the Plano City Council to pass a nondiscrimination law so gays and lesbians could relocate without sacrificing the protections they have in California. The council agreed and passed the law, despite objections from the Liberty Institute, a Plano-based Christian group that threatened to file suit. Several large employers with headquarters in Plano, including Frito-Lay and PepsiCo, wrote letters of support for the policy.

"When I came out here, I had to learn how to talk Republican," says Jeanne Rubin, a Philadelphia transplant who's vice president of the Gay and Lesbian Alliance of North Texas. "Business has been more in the forefront on this issue than the rest of the public sphere, and business is what can bring everyone else along."

Even so, establishing beachheads in red states hasn't been without setbacks. On April 7, residents of Springfield, Mo., the state's third-largest city, repealed a nondiscrimination law that had been on the books for six months. They did so despite public support for the measure from almost 200 businesses. A statewide measure similar to the one that was repealed remains under consideration in the legislature.

It could take a while for outfits like Freedom for All Americans to figure out how to talk about nondiscrimination laws in a way that resonates with Republicans. Gill notes that marriage advocates spent years fruitlessly arguing for the same "rights and benefits" as straight couples before they hit upon a better message. Although issues such as "hospital visitation rights" polled off the charts, framing marriage as a collection of rights sounded alien and therefore threatening to undecided voters. Only when marriage was presented in the context of love did this perception change.

But Gill is confident that, whatever the message, the gay-rights movement has already discovered its best ambassadors in the South. "A gay activist going into the legislature in Alabama is going to have zero effect," he says. "The ACLU is a wonderful ally, but their ability to talk to people in the Alabama legislature? Zero. It's about who is best to deliver the message. You want the people who are important in Alabama to be the ones who are your spokespeople. And that's going to be the businesses." B
—*With Lauren Etter*

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Stylists for All

Several well-funded personal-styling services are choosing clothes for professional women who don't have time to shop. Do they work? By Lauren Smith Brody

Photographs by David Brandon Geeting

Allison Brown needed clothes. Cute ones. But she was too busy to find them. So about a year ago, the Rutgers University assistant professor and mother of three signed up for Stitch Fix, an online service that uses “complex algorithms” to offer personal-styling help to women looking to build a wardrobe. It’s a fraught idea—letting a stranger pick out things you’d wear is tough enough to swallow, even without the meddling of so-called disruptive technology—but it worked scarily well: “Once, I complimented a friend on the wrap dress she was wearing,” says Brown, 38. “The next month, I go to open up my Fix, and there it is, the same exact wrap. I’ve honestly started to wonder, are they in my head?”

Stitch Fix’s website, with its cheerful-looking models and chatty how-to section, is meant to mimic a trusted adviser. (Tag line: “Your partner in personal style.”) You start by filling out a friendly, detailed survey describing your fashion sense, body type, budget, and lifestyle. Then you pick a delivery date and pay a $20 styling fee. You’re sent a box of five surprise garments to try; you can keep any, or return them all at no additional cost. If you purchase at least one item—the price for each averages about $55—the $20 is refunded. If you keep everything, you also get 25 percent off the total bill.

The ideal customer is a woman who read Sheryl Sandberg’s *Lean In* and internalized its advice. “Women set this high bar for themselves, that they’re going to work and pick up the kids on time, and they’re going to look really great doing it all,” explains Stitch Fix Chief Executive Officer Katrina Lake, 32. She came up with the idea while at Harvard Business School and founded the company in 2011. It’s grown to more than 1,500 employees, including an executive suite that includes alumnae of Sephora and Gap. Last fall, Stitch Fix got $30 million from venture capitalists, bringing its total investment to $46.75 million.

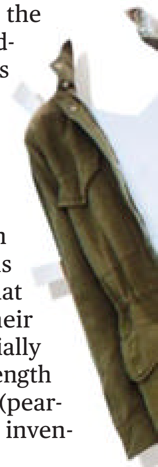
Yet Stitch Fix is hardly alone in offering women this service. Personal styling was once reserved for Hollywood starlets, wealthy female executives, and socialites with too many party invites. But as e-commerce has become a dominant way to buy things—a third of all consumers shop online at least weekly, according to the recent PricewaterhouseCoopers Total Retail survey—tech-minded merchants are trying to democratize styling, just as Uber has granted commoners a private driver and Drybar has made a regular Saturday night worthy of black-tie hair.

The competition includes Keaton Row, which raised $6 million to create personalized “lookbooks” of outfit ideas from online retailers such as Shopbop and ASOS. Trunk Club builds a closet for men, working in tandem with Nordstrom. Stylit, out of Israel, sends personalized outfit advice to your in-box weekly. The latest is Everywear, introduced this April by Brandon Holley, the former editor-in-chief of the shopping magazine *Lucky*. Drawing on Holley’s network of professional fashion stylists, Everywear offers a woman shopping recommendations based on what’s already in her closet, then licenses that info to stores. “If we can say, look, in 1 million women’s closets there are currently 700,000 pencil skirts, that means this kind of shirt has X percentage chance of selling,” Holley explains.

All these companies are trying to reinvent the $116.4 billion women’s retail industry, whose growth has slowed to a halt in recent years. Since 2014, C.Wonder, Piperlime, and Jones New York all sounded the death knell; mass chains such as Abercrombie & Fitch and Gap are also struggling. Traditional stores are “filled with nothing exciting,” says Marshal Cohen, a retail analyst with NPD Group. “What the customer is interested in is what comes before and after the transaction—they want help making purchases in a personal way.”

Keaton Row employs more than 2,000 amateur fashion hounds who hunt for its customers. Stylists who sell the most are rewarded with bonuses such as designer handbags. Co-founder Cheryl Han (who was in Lake’s class at Harvard) envisions a higher-end shopper. “Our customers don’t want more in their closet. They’d rather buy one key piece,” she says. Stitch Fix’s approach is more personal: It pairs each client with a trained stylist who sends the clothing and a friendly note, then adapts picks for subsequent deliveries based on feedback. “When I applied to HBS, I didn’t have this business plan,” Lake says. “But I did have the idea that retailers were doing a really bad job of knowing their client and serving you well.” Her algorithm is essentially a tagging system that keeps track of your likes (knee-length dresses, say, or the color blue) and customer types (pear-shaped, pattern-happy) for each piece in its private inventory, which Stitch Fix buys at wholesale.

How well do these services actually work? Within hours on Keaton Row, I received a message from Nicole, a stylist in San Francisco. She sent two lookbooks, one filled with casual pieces and one dressier—not exactly what I asked for.



Nothing To Wear

Testing out office apparel from three promising styling services

Keaton Row
Keatonrow.com

Once you’re paired with a stylist, she makes a lookbook of head-to-toe outfits. You order favorites through KR; the items come from third-party retailers. Anyone interested in clothes can sign up to be a stylist.

“The model of knowing what’s in your closet and suggesting new items is fairly genius. I loved every piece but couldn’t decide on this dress.”

Saloni
Dress, *$395*

Madewell
Anorak, *$178*

Everywear
Everywear.com

As on the dating app Tinder, you start by swiping left or right on various types of garments to show what your closet might be missing. Fashion magazine stylists then make picks for you from high-end Web shops.

Barneys
Espadrilles, *$175*

Splendid
Sweater, *$198*

Stitch Fix
Stitchfix.com

It’s the largest of these services, with the most funding and its own inventory. Customers get five items in a box as often as they want. Stitch Fix considers it a success if you buy one or two, then send the rest back.

Henry & Belle
Jeans, *$114*

Eight Sixty
Striped tank, *$68*

“The sweater is cute, but what I needed were the jeans, which I will live in. I’ll probably go back for another Fix.”

Tart Printed wrap dress, *$138*

Everything chosen was black, white, gray, and navy, even though I’d declared myself very open to colors and patterns. To Nicole’s credit, her picks—a pencil skirt, a V-neck tee, and a silky blouse—looked much like what’s already in my closet. But I needed none of it.

Stitch Fix required a little more patience. Five days after I signed up, my box arrived. My stylist, Layla, included tiny silhouetted pictures of the goods styled two ways, casual and professional. First up, earrings: basic, little golden studs. I’d wear them, but I didn’t need them. Next, a flimsy and unflattering wrap dress. A boatneck Splendid sweater was cozy but not special enough to merit $198. An embellished tank top was just not my style. The final item was a pair of black, coated jeans that looked suspiciously similar to my favorite blue ones. As I tried them on, I realized they were the exact same brand, cut, and size—in a color I actually needed. Within five minutes, I decided what I’d wear with them the next day and logged on to give feedback on the four pieces I planned to send back.

The styling session took about half an hour, in the privacy of my bedroom, but it didn’t feel much different than the personal-shopping services that upscale department stores offer. Connie Brown, a 25-year veteran of Saks Fifth Avenue in Atlanta—where she dresses everyone from female CEOs to bar mitzvah grandmas—says the detailed survey she gives customers is strikingly similar to the ones you fill out online. The real difference, she says, comes through in fit. “I have a tailor who works with me one-on-one, because the pants are going to be too long, or you’re going to look so much better with the pockets stitched down,” she says.

Department-store stylists such as Brown, who says she needs only five hours to plan a year of outfits, don’t charge for the service; they earn a commission based on what their clients buy. Even so, most busy women don’t use them. NPD’s Cohen says personal-shopping sales account for about 10 percent of a store’s fashion business.

If one of the newfangled services can mimic that experience, it will probably win this race. Already, Stitch Fix says, 70 percent of customers order a second box within 90 days. Back at Rutgers, Professor Brown has been telling her students about the company, though most wait to sign up until they have their first job. In the meantime, she’s been surprising them with her new look. “When I have a 22-year-old compliment my outfit, it reassures me I’m not some frumpy mom.” Ⓑ

PHOTOGRAPHS BY DAVID BRANDON GEETING FOR BLOOMBERG BUSINESSWEEK; PROP STYLIST: PRISCILLA JEONG

HAPPILY UNDEREMPLOYED

The rare Hollywood comedy that advocates work-life balance. By Logan Hill

In the very adult beginning of *Adult Beginners*, Jake, a New York venture capitalist played by Nick Kroll, quickly proves he's an unrepentant jerk. "Enjoy your Champagne—it's filled with roofies!" he shouts at an office party, toasting the investors who've sunk their savings into his product, Minds i, an atrocious rip-off of Google Glass. "You're all going to have so much more money … on paper."

Seconds later, Jake is back in his bachelor pad, snorting cocaine and making out with a woman, when he's interrupted by a phone call: The supply chain broke down in China. The news is already on TechCrunch. The party's over. As investors start screaming about their emptied retirement accounts and devastated college funds, Jake just rolls his eyes.

The capitalist carnivore is a familiar, if unfortunate, Hollywood trope. Like Larry the Liquidator or Lex Luthor, he's typically a villain. At his best, he's an admirably inhuman, semi-autistic genius like *The Social Network*'s Mark Zuckerberg. More often, he's the enviable antihero, as in *Wall Street*, *Boiler Room*, and *The Wolf of Wall Street*, which are all essentially gangster flicks. Like James Cagney's 1949 classic, *White Heat*, they ask audiences to gawk at a wild man during his rise to power ("Made it, Ma! Top of the world!"), until he's gunned down in a blaze of glory. We like to see Leonardo DiCaprio's douche bag Jordan Belfort party on his yacht and Michael Douglas's Gordon Gekko outsmart the feds, but we don't want them to get away with it—even if their real-life analogs often do.

Adult Beginners takes a more unusual path. Based on a story by Kroll, the film begins where many similar ones end. Jake suffers his fall, but then the man of much money and little taste is offered some sympathy.

First, he takes the train from Manhattan to the suburbs and asks his pregnant sister (Rose Byrne) and her husband (Bobby Cannavale) to let him crash. They have a different idea: free rent and $300 a week to baby-sit their 3-year-old son. Jake accepts.

OVER AND OVER, KROLL'S INVITED VIEWERS TO LAUGH AT THE SELFISH PRICKS HE PORTRAYS

Kroll has mastered the art of playing crass egomaniacs such as attorney Ruxin on *The League* and a variety of cads in sketches on the *Kroll Show*. His self-satisfied smirk is famous enough that *Parks and Recreation* created a character for him called, simply, "the Douche." Over and over, he's invited viewers to laugh at the selfish pricks he portrays. But he's never asked fans to like them. Mostly, that's why *Adult Beginners* works—because Kroll is unexpectedly endearing.

It also helps that this isn't a financial revenge comedy, like *Trading Places* or *Horrible Bosses*, in which the fallen white-collar guy plots against the executives who screwed him. Jake instead becomes a genuine part of his sister's family. He swaps snorting lines with bimbos for attending—and enjoying—kids swim class.

Just when Kroll's character seems to have earnestly embraced family time, he takes a junior-level gig as a trader, and it seems as if he might fall back into old habits. His boss (Josh Charles) is the same kind of jerk he used to be, a swaggering, golfing, homophobic bro. Jake thrives until he tells the guy he has to leave work for a family emergency. "This isn't *Jerry Maguire*, dude. I won't fire you," the boss replies. "You put up numbers. But you have a choice to make: Either you're the guy who sits back in that chair right now, or you're the guy who leaves work for his family."

Tapping into real-life workplace fear, the manager tells Jake he won't be a top earner if he ducks out early. He'll find himself stuck "in the middle"—a phrase Charles delivers with a tone of utter disgust. When Jake says he's going to go anyway, it becomes obvious that he has less in common with Charlie Sheen, hustling in *Wall Street* with a vein popping in his forehead, than with Anne Hathaway, settling for a more sustainable path in *The Devil Wears Prada*.

In the movies, female heroines make tough choices like this all the time. But ambitious guys almost never sacrifice professional success. Either they're destroyed at the end, or they get everything they ever wanted: the money, the career, the girl. Jake realizes, like so many Hollywood women before him, that he can't have it all, but that maybe he can keep a job that doesn't ruin his life.

ILLUSTRATION BY JAN BUCHCZIK. KROLL: THE WEINSTEIN COMPANY

The Widening World of Whiskey

Six delicious bottles to threaten Scotland's single-malt monopoly. By Elizabeth G. Dunn

ILLUSTRATION BY BRATISLAV MILENKOVIC

India
Amrut Intermediate Sherry Matured
57 percent ABV, *$120*

Blame the odd name on the distillers' novel technique: They move the whiskey from ex-bourbon barrels to sherry casks and then back, in an effort to integrate figgy sherry notes. It's good on ice with a splash of water, which opens up the dried fruit and spice flavors.

England
English Whisky Co. Classic
46 percent ABV, *$70*

The first whisky to be produced in England in a century is distilled by a Norfolk family with 600 years of experience in the grain business. Fresh, malty, and citrusy, with a little salt and smoke, this is an everyday bottle that's not too strong to drink neat.

Australia
Sullivans Cove French Oak
48 percent ABV, *$225*

Basically a whiskey that thinks it's a rum, this has a burly backbone that makes it best for sipping slowly. It gets its molasses character from sitting in port casks for 12 to 14 years on the island of Tasmania, where it's bottled. Try it in place of dessert.

Sweden
Mackmyra First Edition
46 percent ABV, *$60*

This gentle, honey-toned liquor is aged below ground in abandoned mines, in casks of oak originally intended for building 19th century Swedish warships. Everything but the yeast comes from within a 75-mile radius of the distillery.

France
Brenne French Single Malt
40 percent ABV, *$67*

If you usually drink white wine, this light liquor may be a good departure. It's made by a third-generation cognac producer who borrowed production techniques from brandy: Aging in new Limousin oak and cognac barrels lends it a sweet fruitiness.

Taiwan
Kavalan King Car Conductor
46 percent ABV, *$120*

This recent release from the Asian island's first whiskey distillery is known to contain juice from no fewer than eight different types of cask. The result is a rich, complex spirit with vanilla and tropical fruit notes that officially puts Taiwan on the map.

Pencil Pushers

Pens are king, but pencils are rising among desk-bound urbanites. Here, the places selling the best ones, plus tools to keep you sharp. By Jason Chen

This Woman Will Sell You on Graphite

When Caroline Weaver, 24, started her website, **cwpencils.com**, last November, she was shocked it took off. "I was shipping so many pencils out of my house, I was embarrassed to have people over," she says. In March she opened a New York shop, selling 247 varieties in neat glass jars. Most go to travelers, collectors, and others who enjoy pencils for obvious reasons: They're erasable. They're cheap. They're eco-friendly. And, after years of iPhone taps, they make writing feel good.


Weaver at her store

Where to Buy Them

Online, of course. Start with these international retailers.

Antica Cartotecnica
anticacartotecnica.it

Family-run since 1930, the stationer specializes in antique European writing tools. Don't miss the notebooks, either.

Choosing Keeping
choosingkeeping.com

This shop, in London's Shoreditch district, has great pencils alongside a nice selection of pens and desk accessories.

Pencils.jp
pencils.jp

A Japanese cult favorite with hard-to-find niche brands—try Tombow's Mono. Accepts PayPal only.

Present and Correct
presentandcorrect.com

Opened by two nostalgic graphic designers, this London boutique also stocks vintage office supplies.

Caran d'Ache
carandache.com

The Swiss mainstay has a full range of its popular house brand online. If you're in Geneva, check out the flagship.

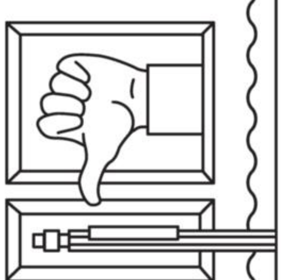
How to Avoid Dullness

Necessary accessories

Standard pencils come with a rubber eraser, but it can dry out. Instead, spring for the plastic, Swiss-made **Technik eraser** ($3.25), which removes graphite and charcoal without the smudging and messy shavings others leave behind. The manual **Classroom Friendly Supplies sharpener** ($25) was invented by a teacher who was frustrated with his regular one. It feeds the wood through the blade, hands-free, while creating a nice long point. Unlike an electric sharpener, it's very quiet. When your pencil becomes too short to hold—3 inches or so—the **E+M Peanpole pencil extender** ($5.50) can be useful. Simply insert the stub to extend a pencil's life a week or two.

Mechanical Pencils Are Terrible

Weaver obviously prefers graphite to ink, though she keeps at least one pen for when it's required (signing legal documents, for instance). On the subject of mechanical pencils, however, she's adamant: "I don't sell them." Nor do most similar shops. "The lead snaps too easily, they're fussy, and they lack that wonderful tactile quality," she says.



PHOTOGRAPHS BY VAN ROBINSON FOR BLOOMBERG BUSINESSWEEK

The All-Time Top 10

SAT-standard No. 2 graphite is considered ideal, but swap yellow paint for ones with nicer wood, a balanced weight, and a better feel in your hands.

1. Viarco
Premium 2001, *$1.25*

Made by a small Portuguese factory—one of Europe's oldest—it's got a futuristic black matte finish.

2. Palomino
Blackwing 602, *$2*

Its motto: Half the pressure, twice the speed. Fans say a light, efficient touch is all it requires.

3. Caran d'Ache
Swiss Edelweiss, *$1*

A staple purchase of Swiss schoolchildren. The high-quality graphite is virtually smudgeproof.

4. Faber-Castell
Grip 2001, *$1.75*

Winner of several design awards, it's extra comfortable, thanks to its triangular shape and grippy rubber nubs.

5. Nataraj
Marble, *30¢*

The best cheap style, it's produced in India's largest pencil factory, which makes 8 million of them each day.

A reproduction of one used by Vladimir Nabokov, John Steinbeck, and Walt Disney

There's a growing market online for vintage pencils, such as these, sold unsharpened

1. 2. 3. 4. 5. 6. 7. 8. 9. 10.

Each is individually marbled in the factory, so no two look the same

6. General's
Cedar Pointe, *$1*

This completely raw option has a surprisingly effective eraser, which many competitors lack.

7. Mitsubishi
Hi-Uni, *$2.50*

The holy grail of Japanese options, prized for its soft graphite, solid point retention, and beautiful lacquer.

8. Eberhard Faber
Microtomic 2B, *$6*

Mostly considered a drawing tool, it has a throwback silver cap that's rarely seen in modern ones.

9. Dixon
Federal, *$2*

Smells awesome when sharpened, because it's made of eastern cedar as opposed to more common incense wood.

10. IBM
Electrographic, *$5*

Engineered for test-scoring machines. Collectors love it for the smooth, dark line it produces.

THE MARIAH CAREY BUSINESS MODEL

How to be a pop star without new hits or successful tours. By Claire Suddath

If you took inventory of Mariah Carey's recent projects, you might conclude she's desperate for money. In 2011 she hosted a three-night special on the Home Shopping Network, where she modeled cheap jewelry with as much gusto as Paula Abdul before her. In 2013, she followed Abdul again, taking her seat on *American Idol*. Earlier this year, Carey announced a "residency" in Las Vegas, where she'll compete for ticket sales with such hot acts as Britney Spears and Penn & Teller. Then, on April 27, she of the famous five-octave range released a greatest hits album.

Called *#1 to Infinity*, it features songs that topped the *Billboard* Hot 100, starting with her 1990 ballad *Vision of Love* and ending at *Touch My Body*, which held the top spot for two brief weeks in—wait—2008? That was seven years ago. Carey has released three albums since, but they've all flopped. And yet, despite all the markers of a career on the decline, the diva is thriving. According to CNN, Carey, 45, is worth upwards of $520 million. That's more than Elton John and on par with Jay Z.

Much of her current success, of course, rests on the foundation of her earlier career. With 18 No. 1 *Billboard* hits, she holds the record for a solo artist. In 2001, piled high with Grammy nominations and platinum records, she signed an $80 million, five-album contract with EMI. At the time it was one of the largest record deals for a female singer, second only to Whitney Houston's $100 million contract with Arista Records. "She's the last of a dying breed," says Jeff Rabhan, chair of NYU's Clive Davis Institute of Recorded Music. "A pop diva put on a pedestal. That doesn't happen anymore."

Carey did a memorable job recording hits like *Heartbreaker* and *Always Be My Baby*, but that's not what keeps her flush. It's that she wrote her own lyrics. "If you're just the artist, you live off record sales, but as a songwriter she's paid every time her song is played on the radio or streamed online," says Clyde Rolston, a music-business professor at Nashville's Belmont University. "That makes a huge difference in long-term financial success." With Nineties nostalgia kicking in, Carey's music is streamed on Spotify twice as often as Madonna's.

Negotiating writing credits is now de rigueur for Katy Perry, Rihanna, and other young pop stars—even if they haven't actually penned the tunes. But Carey has always been shrewd with her contracts: In 2001, when she tried acting, in the movie *Glitter*, she bombed. The soundtrack album that followed sold only 500,000 copies. EMI, her label at the time, decided it would pay to never work with her again. So she brokered $28 million out of the deal. The *New York Times* did the math: Carey made about $25 per copy of *Glitter* sold at retail.

After that the singer bounced around to a few labels and released new albums with inconsistent results. Carey's also not really a live performer. She can sing, of course, but "you don't really remember when they announce a new Mariah Carey tour, do you?" asks Bob Merlis, a longtime music publicist at Warner Bros. "She's just not a touring act." (She can't dance.) According to the music data site Pollstar, Carey's tours have pulled in $60 million since 2000. Christina Aguilera has made $92 million.

So how does Carey remain a star without big concerts or breakout songs? By saying yes, basically. A few months on *American Idol* netted her $18 million. Her Elizabeth Arden fragrances have made more than $150 million in revenue since 2007. She's still hawking her HSN line, and she's also got a new soft drink. Carey's most profitable partnership remains the one she has with Santa Claus—she gets a windfall of royalties every Christmas when *All I Want for Christmas Is You* is played ad nauseam.

Now she's turning to Vegas, the only channel she's yet to milk of its money. Starting in May, she'll play 18 shows at Caesars Palace while its matron, Celine Dion, rests. If the shows sell, Carey would be wise to make the gig permanent: Dion makes about $2 million in ticket sales a night. If it doesn't work out for Carey, that will probably be fine, too. Even her failures end up making her a lot of money. Ⓑ

CAREY: KEIBUN MIYAMOTO/RETNA LTD USA. BUTTERFLIES: ALAMY (6)

BRADLEY GAYTON

52, corporate secretary and assistant general counsel, Ford Motor

PHOTOGRAPH BY CHRISTOPHER LEAMAN FOR BLOOMBERG BUSINESSWEEK

What's your job?
I manage our SEC disclosures and filings and help guide people through that process.

How'd you end up at Ford?
In law school I interviewed with Ford for a clerkship. I'm a lifer.

What do you try to accomplish with your work outfits?
I'm only the sixth person to have the corporate secretary job, so I show up trying to be respectful of the position.

How do co-workers respond to your wardrobe?
It ranges from "You look really nice" to "Does that actually match?" Of course it does.

Where'd you get your style from?
My grandfather. He was a factory worker with a small farm, but when he went to the feed store or the bank, he always got dressed for the occasion. He probably wouldn't approve of the bright colors.

You like colorful shirts.
I have one solid white shirt in the back of my closet, in the event of a funeral.

Where do you buy them?
They're custom. I can't find bright colors and interesting patterns consistently off the rack.

Do you monogram your shirts?
Yes—with my signature on the lower left side above my waist. It was against the advice of a couple colleagues.

What's your ride?
I have a BMW K1200GT motorcycle that I take to work.

Interview by Arianne Cohen

How Did I Get Here?

CHERYL BACHELDER

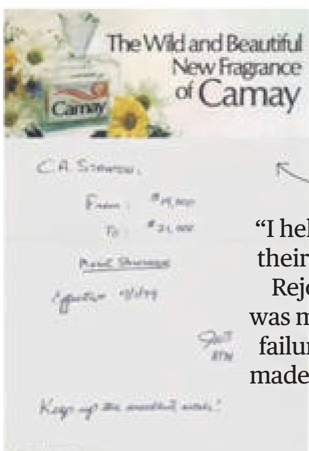
Chief executive officer, Popeyes Louisiana Kitchen

Education

Monta Vista High School, Cupertino, Calif., class of 1974

Indiana University, class of 1978

“I did a joint B.S.-MBA program. Procter & Gamble recruited me because I was president of my sorority.”



First raise—at Procter & Gamble in 1979

Work Experience

1978–81
Assistant brand manager, Procter & Gamble

1981–84
Brand manager, Gillette

1984–86
Group brand manager, Planters nuts and Life Savers, RJR Nabisco

1987–92
Vice president for marketing, general manager, Life Savers division, RJR Nabisco

1992–95
Homemaker

1995–2000
Senior vice president for marketing and product development, Domino’s Pizza

2001–03
President, KFC, Yum! Brands

2003–07
Homemaker, board member

2007–Present
CEO, Popeyes Louisiana Kitchen

“I helped develop their liquid soap, Rejoice, which was my first career failure. We never made it to rollout.”

“My children were 1 and 7, and my husband had aging, ill parents. It was crazy to try to manage a career through that time. I tell women, ‘Don’t be afraid to manage your life.’ ”

At Nabisco in 1990

“I really fell in love with franchises, but the business at KFC was struggling—it still is—and I was diagnosed with breast cancer. I worked through my treatments and found it therapeutic.”

“The chairman had me present a mechanical pencil company acquisition to the board.”

“I launched Honey Roasted peanuts and rejuvenated the nut business, and then they put me on Life Savers. I’m most proud of Life Savers Gummi Savers.”

At the debut of Planters Honey Roasted peanuts in 1985

“I was going to board meetings—True Value hardware and AFC, the holding company of Popeyes—raising teenagers, and adopting my third child, a teenager from Russia.”

“The board asked. I was well prepared, but the biggest challenge was the public company part. I’ve actually enjoyed that a lot.”

Popeyes

Life Lessons

1. “We worry too much about breaks. If you’re a competent, performing person before the break, you will be afterward.” **2.** “Positive energy is an essential ingredient.” **3.** “Paper Mate makes the best crossword pencil.”

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